H.R.I.O.
HORTICULTURAL RESEARCH INSTITUTE OF ONTARIO

Research Report #36

MUCK VEGETABLE CULTIVAR TRIALS and RESEARCH REPORTS

1986

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Ministry of Agriculture and Food
ONTARIO

Muck Research Station
Kettleby, Ontario

RESEARCH AND CULTIVAR TRIAL REPORT FOR 1986

MUCK RESEARCH STATION, HOLLAND MARSH,

R.R.# 1 KETTLEBY, ONTARIO, LOG 1JO

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Staff - 1985-86

MUCK RESEARCH STATION
H.R.I.O.

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FOREWORD

Horticultural research and services programs for the fruit and vegetable industry of Ontario are the responsibility of the Horticultural Research Institute of Ontario, Ontario Ministry of Agriculture and Food. First established in 1906, this institute carries on its research efforts in four units, the Vineland Station; the Horticultural Products Laboratory, also situated at Vineland Station; the Horticultural Experiment Station at Simcoe and the Muck Research Station in the Holland Marsh.

The Muck Research Station, established in 1948, conducts research on production problems for vegetable crops grown on organic soils. The Ontario Muck Crops Committee, representing growers, researchers, extension specialists and related industries, sets priorities for research on an annual basis.

A number of research projects are conducted in cooperation with several departments at the University of Guelph; Agriculture Canada and Industry.

In recent years, priorities for research in muck crops have been directed towards the following areas:

1. Control of Allium White rot
2. Control of cavity spot in carrots.
3. Alternative to allidochlor (Randox) herbicide in onions.
4. Screening cultivars of onions, carrots, lettuce, celery, broccoli, cauliflower, potatoes for resistance to disease.
5. Control of carrot weevil and carrot rust fly.
6. Control of aster leafhoppers in lettuce.
7. Control of subsidence of organic soils.
8. Extending the market season for celery in controlled atmosphere storage.

The station also provides Advisory Services to growers and the general public in regards to production and marketing of horticultural crops.

The Pest Management Program for growers in the Bradford area is managed by the Plant Industry Branch in cooperation with the Bradford and District Vegetable Growers' Association. Intensive pest monitoring is available to vegetable producers on a fee for service basis.

This report highlights the research projects which were conducted in 1986. The results published in this report should be treated as a progress report. Some of the chemicals used in the trials are not registered for use on the crops they were applied to. Additional trials may be necessary before any firm conclusions and recommendations can be given.

My sincere appreciation to the Staff for their efforts in conducting these trials and producing this report. My thanks to all the cooperating researchers and technicians for their interest in muck crops.

Matthew Valk, P.Ag.,
Senior Muck Crops Specialist

SEED SOURCES - 1986

We wish to express our sincere thanks to all those who provided us with seed for trials.

A&C	Abbott & Cobb Inc., Box 307, Feasterville, Pa., U.S.A., 19047
A.Ch.	Alf. Christianson Seed Co., Box 98, Mount Vernon, Washington, U.S.A., 98273
Agri	Agri-Seed & Chemical Corp., 850 Dryden Road, Metamora, Mi., U.S.A., 48455
Agw	Agway Inc., Seed Division, Syracuse, New York, U.S.A., 13221
ARCO	Arco Seed Co., Box 181, El Centro, California, U.S.A., 92244-0181
AS	Agri-Saaten Gmbh, P.O. Box 280365, 2000 Hamburg 28, West Germany
Asg	Asgrow Seed Co., Box 610, Bradford, Ontario, Canada, L3Z 2B2
Asm	Asmer Seeds Ltd., Ash St., St. Leicester, England, LE5 CDD
Bak	Bakker Brothers, P.O. Box 7, Noordscharwoude, Holland
BEJO	Beemsterboer & Jacob Jong seed Co. Ltd., Box 9 Noordscharwoude, Holland
Cro	Crookham Company, Box 520, Caldwell, Idaho, U.S.A., 83605
E.J.	Erie James Produce, P.O. Box 457, Leamington, Ontario, Canada, N8H 3W5
FM	Ferry-Morse Seed Co., 111 Ferry Morse Way, P.O. Box 7274, Mountainview, California, U.S.A., 94942.
Glo	Global Seeds, P.O. Box 1617, Gilroy, California, U.S.A., 95020
HM	Harris Moran Seeds of Canada, R.R. # 2 Hamilton, Ontario, Canada, L8N 2Z7
JHK	J.H. Klitgord, Box 87, Mayville, New York, U.S.A., 14757
Jung	J.W. Jung Seed Co., Randolph, Wisconsin, U.S.A. 53956
MSU	Michigan State University, Dept. of Horticulture, East Lansing, Michigan, U.S.A., 48824
NK	Northrup King & Co., 1500 Jackson St., N.E., Minneapolis, Minn.,U.S.A., 55413
NZ	Nickerson-Zwaan BV., Gebroken Meeldyk 74, Box 19 2900A Barendrecht, Holland
PES	Peter Edward Seed Co., 115 Cardinal Lane, Eustris, Florida, U.S.A., 32726
PETO	Petoseed Co., Inc., Box 4206, Saticoy, California, U.S.A., 93004

RS	Royal Sluis Inc., 1293 Harkins Rd., Salinas, California, U.S.A., 93901 Royal Sluis Inc., Box 22 1600AA, Enkhuizen, The Netherlands
Sieg	Siegers Seed Co., 7245 Imlay City Rd., Imlay City, Mi., 48444, U.S.A.
SS	Seed Service Inc., See: J.W. Jung Seed
Sto	Stokes Seeds Ltd., 39 James St., P.O. Box 10, St. Catharines, Ontario, L2R 6R6.
Sun	Sun Seeds, 9531 West 78th St., Suite 229, Eden Praire, Minn., U.S.A., 55344
Tak	Takii Co. Ltd., Box 7, Kyoto Central 180 Umbekosi-Inokuma, Kyotoa, Japan, 600-91
Tra	Trapp & Sons, Beulak, Michigan, U.S.A., 49617
USDA	U.S. Department of Agriculture, Dr. C.E. Peterson, Dept. of Hort., University of Wisconsin, Madison, Wisconsin, U.S.A., 53706
UW	University of Wisconsin, Dept. of Hort., 1575 Linden Drive, Madison, Wisconsin, U.S.A., 53706, Attention Dr. Gableman
VDH	Vandershave, Box 1, 4420AA, Kapelle 3648, Holland
VIL	Vilmorin-Andrieux S.A. La Menitre, 49250 Beaufort en Vallee, France

SUNSHINE HOURS

Month	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	LTA
January		75	85	58	69	88	108	82	53	68	52	71	74
February		88	105	123	132	110	81	102	102	66	60	85	96
March		114	177	141	126	128	102	130	115	135	141	124	130
April	185	221	206	191	127	155	158	219	117	152	171	162	171
May	256	197	341	230	208	233	221	199	186	164	235	222	221
June	272	261	282	281	280	192	245	170	296	335	240	258	258
July	292	250	309	303	263	246	265	303	295	268	271	252	275
August	227	268	255	253	189	206	201	225	226	218	207	217	224
September	160	192	104	179	204	161	119	138	195	168	181	112	159
October	127	114	162	144	79	108	106	126	141	105	145	129	124
November	73	88	47	107	68	73	116	61	49	77	37	94	74
December	58	83	51	58	56	74	33	35	50	39	62	38	50
Total Hours		1951	2124	2068	1801	1774	1755	1790	1825	1795	1802	1764	1856

LTA = Long Term Average for Muck Research Station, R.R. # 1 Kettleby, Ontario, LOG 1JO
11 Years (1976-1986)

GROWING DEGREE DAYS (5°C Base)

Month	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	LTA
January	0	0	0	0	0	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0	0	6	0	0	0
March	0	0	0	0	23	4	18	6	14	0	7	45	10
April	25	110	112	17	67	72	86	67	44	82	129	96	76
May	306	170	265	242	234	260	180	301	165	163	243	295	235
June	382	408	304	356	370	285	377	320	377	413	303	339	321
July	464	420	457	467	473	459	467	485	521	473	439	472	466
August	411	398	380	452	415	480	429	378	480	507	401	383	426
September	215	250	274	280	301	271	274	288	328	254	333	276	279
October	145	68	70	112	129	73	48	143	131	175	139	123	113
November	74	0	53	33	40	9	19	49	23	28	31	14	31
December	0	0	1	0	0	0	0	32	0	10	0	0	4
Annual	2022	1824	1916	1959	2052	1913	1898	2069	2083	2111	2025	2043	1961

LTA = Long Term Average for Muck Research Station, R.R. # 1 Kettleby, Ontario, LOG 1JO
12 Years (1975-1986)

A temperature of at least 5.5°C is considered necessary for plant growth. Accumulated temperature (degree days) above 5.5°C is a measure of plant growth during the month.

PRECIPITATION

Month	1975		1976		1977		1978		1979		1980		1981	
	Rain mm	Snow cm	Rain mm	Snow cm	Rain mm	Snow cm	Rain mm	Snow cm	Rain mm	Snow cm	Rain mm	Snow cm	Rain mm	Snow cm
January	24	31	14	43	0	37	30	44	9	57	27	15	0	33
February	29	55	24	17	11	4	0	12	9	12	4	16	37	21
March	23	28	73	16	42	16	32	8	44	14	44	24	24	13
April	21	30	72	10	20	0	74	5	67	10	110	0	36	0
May	77	0	82	5	50	0	66	0	82	0	23	0	80	0
June	55	0	66	0	67	0	53	0	47	0	88	0	71	0
July	67	0	185	0	118	0	16	0	49	0	129	0	88	0
August	74	0	53	0	155	0	102	0	100	0	48	0	84	0
September	69	0	102	0	114	0	123	0	62	0	84	0	89	0
October	38	0	79	0	86	0	53	0	116	2	71	0	75	17
November	44	0	14	10	73	10	41	7	85	2	20	9	67	6
December	25	41	13	34	11	15	21	32	57	19	42	35	5	43
Annual	546	185	777	135	747	82	611	108	727	116	690	99	656	133
Total Precp.	731		912		829		719		843		789		789	

PRECIPITATION

Month	1982		1983		1984		1985		1986		LTA	
	Rain mm	Snow cm	Rain mm	Snow cm	Rain mm	Snow cm	Rain mm	Snow cm	Rain mm	Snow cm	Rain mm	Snow cm
January	5	54	29	7	0	56	16	29	0	35	13	37
February	0	35	28	6	24	53	63	37	16	33	20	25
March	30	31	34	12	33	18	47	3	34	19	38	17
April	22	11	75	4	46	0	42	8	37	3	52	7
May	42	0	88	0	104	0	77	0	88	0	72	0
June	141	0	29	0	61	0	43	0	120	0	70	0
July	80	0	65	0	36	0	72	0	95	0	83	0
August	71	0	90	0	81	0	158	0	166	0	99	0
September	73	0	46	0	98	0	59	0	209	0	94	0
October	47	0	75	0	39	0	73	0	47	0	67	0
November	101	7	50	24	64	0	75	28	14	17	54	10
December	58	22	11	41	22	19	0	17	25	35	24	29
Annual	670	160	620	94	608	146	725	122	851	142	686	125
Total Precip.	830		714		754		847		993		811	

LTA = Long Term Average for Muck Research Station, R.R. # 1 Kettleby, Ontario, LOG 1JO
12 Years (1975-1986)

MEAN TEMPERATURE (^{O}C)

Month	1975		1976		1977		1978		1979		1980		1981	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
January	- 0.2	- 8.3	- 5.4	-15.8	- 9.5	-18.0	6.4	-14.6	- 4.8	-10.9	- 2.1	- 9.2	- 7.0	-17.4
February	- 1.5	- 8.3	1.0	- 6.9	- 3.1	- 9.4	6.2	-17.5	- 6.3	-16.0	- 4.6	-12.4	0.9	- 6.6
March	0.9	- 6.3	4.3	- 3.8	6.6	- 2.4	0.2	-10.9	- 6.4	2.5	1.9	- 6.3	3.3	- 5.1
April	6.1	- 2.4	12.9	2.3	13.4	1.7	8.3	- 1.0	9.9	0.9	11.3	2.0	11.6	2.1
May	22.1	8.9	16.0	5.6	21.6	5.8	18.5	6.9	17.9	7.2	19.9	6.9	17.0	4.4
June	24.3	12.2	25.7	12.5	22.2	8.9	23.3	10.2	23.7	11.1	20.3	8.7	23.7	11.5
July	27.6	13.2	24.2	13.6	26.0	14.5	27.0	13.2	27.0	16.0	25.8	13.8	26.0	14.1
August	25.3	12.4	24.6	11.9	23.9	12.0	26.4	12.8	24.1	12.7	26.1	14.7	24.5	13.0
September	18.1	7.3	19.7	8.0	18.4	10.9	19.7	8.9	21.6	8.5	19.5	8.6	18.4	9.8
October	14.9	4.6	10.0	1.5	12.2	2.7	12.6	3.6	12.2	5.1	10.3	3.1	10.6	1.7
November	10.5	1.7	3.2	- 4.2	6.6	0.4	6.3	- 1.9	7.7	1.2	4.4	- 1.8	6.8	- 1.5
December	1.7	-10.3	- 4.2	-13.6	- 2.3	- 9.1	0.2	- 6.6	- 1.3	- 4.8	- 3.3	-12.3	- 1.0	- 7.0
Mean	12.5	2.1	11.0	0.9	11.4	1.5	12.9	0.3	10.5	2.8	10.8	1.3	11.2	1.6

MEAN TEMPERATURE (^{O}C)

Month	1982		1983		1984		1985		1986		LTA	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
January	- 6.2	-15.8	- 2.0	- 7.9	- 6.4	-14.7	- 5.7	-13.3	- 3.2	-10.6	3.9	-13.0
February	- 3.9	-12.6	- 0.3	- 7.4	1.6	- 5.9	- 3.1	-10.8	- 4.1	-11.7	- 1.4	-10.5
March	- 1.9	- 6.6	3.9	- 4.1	- 0.8	-10.4	3.9	- 4.7	5.1	- 4.1	1.8	- 5.3
April	9.9	- 1.1	9.7	0.3	12.5	1.5	13.2	2.4	13.3	1.7	11.0	0.9
May	21.1	8.5	15.3	5.0	15.8	4.4	19.2	6.4	20.3	8.4	18.7	6.5
June	20.6	10.8	25.2	10.0	25.8	11.7	21.1	9.1	22.5	9.8	23.2	10.6
July	26.8	14.4	28.6	14.7	26.7	13.5	25.5	12.9	25.7	14.8	26.4	14.1
August	23.0	11.4	26.0	14.3	27.6	15.2	23.8	12.1	23.3	11.4	24.9	12.8
September	20.1	9.1	22.5	9.2	18.8	7.9	21.9	10.1	19.1	9.3	19.9	9.0
October	15.2	3.6	13.7	3.5	15.6	5.5	14.1	4.4	13.1	4.3	12.9	3.6
November	6.9	0.4	5.1	- 1.7	6.4	- 1.4	4.9	- 0.4	4.5	-2.4	6.1	-0.7
December	3.3	- 3.6	- 4.0	- 9.8	3.6	- 3.7	- 2.5	- 9.0	0.4	-4.5	-0.8	-7.9
Mean	11.3	1.5	12.0	2.2	12.3	2.0	11.4	1.6	11.7	2.2	12.2	1.7

LTA = Long Term Average for Muck Research Station, R.R. # 1 Kettleby, Ontario, LOG 1JO

12 Years (1975-1986)

EXTREME TEMPERATURES (°C)

Month	1975		1976		1977		1978		1979		1980		1981	
	H	L	H	L	H	L	H	L	H	L	H	L	H	L
January	10	-26	6	-35	- 2	-36	8	-25	3.0	-31.5	10.0	-22.0	6.5	-33.5
February	8	-19	9	-26	6	-25	1	-31	6.5	-33.0	3.5	-26.0	10.0	-26.0
March	10	-21	17	-14	23	-14	8	-26	17.0	-16.5	13.0	-27.5	19.0	-17.5
April	18	-10	28	- 7	25	-11	17	- 7	23.0	- 8.0	19.5	- 5.5	21.0	- 6.0
May	30	1	25	1	32	- 2	31	- 4	30.0	- 1.0	31.0	0	27.0	- 3.5
June	32	4	32	3	30	- 2	33	2	31.0	2.5	31.5	- 0.5	34.0	- 1.0
July	34	6	32	6	34	6	33	6	32.0	5.0	29.5	5.0	32.0	6.0
August	36	4	31	2	31	4	33	6	31.5	3.0	30.5	8.0	29.5	4.0
September	26	- 1	29	1	29	4	29	- 2	30.0	- 3.0	26.0	- 1.0	27.0	- 2.5
October	22	- 9	22	- 7	18	- 3	22	- 6	24.5	- 3.0	24.0	- 5.5	17.0	- 5.0
November	19	- 6	13	-13	19	-22	20	-11	14.5	- 8.5	11.5	- 8.0	17.0	-12.0
December	13	-22	3	-23	11	-30	8	-26	9.0	-13.0	8.0	-31.5	5.0	-19.0
Annual	36	-26	32	-35	34	-36	33	-31	32.0	-33.0	31.5	-31.5	34.0	-33.5

EXTREME TEMPERATURES (°C)

Month	1982		1983		1984		1985		1986		LT	
	H	L	H	L	H	L	H	L	H	L	H	L
January	4.5	-30.5	4.5	-20.0	1.0	-33.0	-1.0	-29.5	7.0	-26.0	10.0	-36.0
February	5.0	-28.0	10.0	-23.0	14.5	-28.0	8.5	-28.5	2.0	-23.0	14.5	-33.0
March	17.0	-25.0	14.5	-20.5	9.5	-29.0	16.5	-19.0	24.0	-24.0	24.0	-29.0
April	22.0	-14.0	24.0	- 6.0	27.0	- 5.0	29.5	- 8.0	25.0	- 5.5	29.5	-14.0
May	28.0	0	23.0	- 2.5	28.0	- 3.0	27.0	- 1.5	31.0	- 3.0	32.0	- 4.0
June	25.5	2.0	33.5	- 1.0	32.5	2.5	27.0	1.5	32.0	0	34.0	- 2.0
July	33.0	6.5	34.5	5.0	33.5	2.5	31.0	6.0	32.5	5.0	34.5	2.5
August	30.5	0.5	31.5	5.0	32.5	4.0	30.5	5.5	29.0	2.5	36.0	.5
September	30.0	- 0.5	30.5	0	26.5	- 2.0	30.0	1.0	26.0	- 0.5	30.5	- 3.0
October	23.0	- 4.0	26.0	- 7.0	21.0	- 3.5	20.0	- 6.0	21.5	- 5.0	26.0	- 9.0
November	18.0	- 9.5	17.0	-11.5	20.0	-11.0	18.5	- 7.0	15.0	-12.0	20.0	-22.0
December	20.0	-18.5	3.0	-22.5	16.0	- 1.5	6.5	-25.5	3.0	-19.0	20.0	-31.5
Annual	**33.0**	**-30.5**	**34.5**	**-23.0**	**33.5**	**-33.0**	**31.0**	**-29.5**	**32.5**	**-26.0**	**36.0**	**-36.0**

LTA = Long Term Average for Muck Research Station, R.R. # 1 Kettleby, Ontario, LOG 1JO
12 Years (1975-1896)

FUNGICIDE TREATMENTS FOR THE CONTROL OF CAVITY SPOT AND HORIZONTAL LESIONS IN CARROTS, 1986

The cultivars Royal Chantenay, and Nantes PW Improved, which are susceptible to cavity spot or horizontal lesions, were seeded on May 28 in an organic soil at 50 and 90 seeds/m respectively, in rows 50 cm apart.

Treatments:

1. Check, no treatments
2. Seed treatment with metalaxyl (Apron 35 SD at 1 g/100 g of seed).
3. Furrow treatment with granular metalaxyl at 1 kg ai/ha (Ridomil 5 G at 20 kg/ha).
4. Drench treatment with a mixture of metalaxyl at 0.2 kg ai/ha plus mancozeb at 1.6 kg ai/ha (Ridomil MZ 72 WP at 2 1/2 kg/ha) in a 6 cm wide band over the row in 1000 L water/ha applied immediately after seeding.
5. A spray with a mixture of metalaxyl at 1.2 kg ai/ha plus mancozeb at 9.6 kg ai/ha (Ridomil MZ 72 WP at 15 kg/ha) in 550 L water/ha. The application was made one month after seeding.
6. Furrow drench treatment with mancozeb at 1 kg ai/ha (Mancozeb WP 80 at 1.25 kg/ha) in 1000 L water/ha over seed and soil in open seed furrow.
7. Drench as in treatment 4 with mancozeb at 2 kg ai/ha.
8. Furrow drench as in treatment 6 with vinclozolin at 1 kg ai/ha. (Ronilan 50% WP 2 kg/ha)
9. Drench as in treatment 4 with vinclozolin at 2 kg ai/ha.
10. Furrow drench as in treatment 6 with iprodione at 1 kg ai/ha (Rovral 50% WP at 2 kg/ha).
11. Drench as in treatment 4 with iprodione at 2 kg ai/ha.

All treatments were replicated three times. The plot size was one row 5 m long per treatment and variety. Harvest took place on October 21. 30 roots/plot were evaluated on November 15.

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FUNGICIDE TREATMENTS FOR THE CONTROL OF CAVITY SPOT AND HORIZONTAL LESIONS IN CARROTS, 1986-continued

Treatment	Rate kg ai/ha	Disease index *	% H.L. + degree	% Unmarketable **
1. Check		26.0 b*	72L	11
2. Seed metalaxyl		12.0 a	48VL	1
3. Furrow metalaxyl	1	10.0 a	34VL	4
4. Drench metalaxyl	0.2			
mancozeb	1.6	13.7 a	41VL	3
5. Spray metalaxyl	1.2			
mancozeb	9.6	11.0 a	36VL	4
6. Furrow drench				
mancozeb	1	28.7 bc	72L	19
7. Drench mancozeb	2	25.0 b	71L	12
8. Furrow drench				
vinclozolin	1	31.7 c	75L	26
9. Drench				
vinclozolin	2	22.0 b	61L	12
10. Furrow drench				
iprodione	1	28.0 bc	72L	16
11. Drench iprodione	2	23.0 b	66L	11

$$\text{* Disease Index} = \frac{\text{Disease class X number of plants in that class}}{\text{Total number of plants X 5}} \text{ X100}$$

Figures in a column followed by the same letter are not significantly different, at p = 0.05, Duncan's N.M.R. test.

A disease index of 100 means that all roots are totally diseased.

** % Unmarketable due to horizontal lesions only.

% Horizontal Lesions and Degree: 72L means that 72% of the roots have few, small lesions 34 VL means that 34% of the roots have only very few minute lesions. When evaluated against each other, L is valued at 2 while VL is valued at 1.

Conclusion:

From this trial, it appears that metalaxyl significantly reduced the incidence of cavity spot or horizontal lesions in carrots. In a similar trial in 1985 the same results were reached.

Note: At this time, metalaxyl is not registered for use on carrots.

EFFECT OF VARYING THE AMOUNT OF WATER MIXED WITH ROYAL MH 60 SG ON SPROUTING OF ONIONS IN STORAGE

Royal MH 60 SG, to control sprouting in onions, was applied in the late afternoon of August 21, 1985, as a foliar spray at 3.75 kg product/ha prior to harvest in 300, 550 and 1100 L water/ha with a tractor mounted hydraulic boomsprayer at a pressure of 760 kPa. On that date, 70% of the onion tops had fallen, and eight or more leaves were still green. On September 18, the harvested samples were placed in a forced air and temperature controlled storage at 25°C and a relative humidity of 80%. The temperature was gradually lowered until it reached 1°C on December, 1985. On February 5, 1986 the onions were placed in a room where the temperature was 15-20°C to induce possible sprouting. Evaluation took place on May 23, 1986.

Summary: The sprout control was significantly better in the 300 L water rate compared to the 1100 L rate. Percent weight loss, firmness, and sprout control in treated plots, at all rates of water were significantly different from the untreated check. The rate of water had no influence on the weight loss or firmness.

Treatment	% Weight Loss	* Firm.	SPROUT CONTROL ** Weighted	% Sprout Development 0	1	2	*** 3	
1) 3.75 kg prod/ha in 300L water/ha	12.6 b	3.15a	1.13 c	26.7a	33.3a	40.0a	0	b
2) in 550L water/ha	14.0 b	2.95a	1.35 bc	16.0ab	33.3a	50.7a	0	b
3) in 1100L water/ha	13.9 b	3.05a	1.56 b	8.0b	28.0a	64.0a	0	b
4) untreated check	19.3a	2.22 b	2.32a	2.7 b	9.3 b	41.3a	46.7a	

Numbers in each column followed by the same letter are not significantly different by DMRT (P=0.05).

* 5 = Most Desirable

** Weighted = $\frac{\text{Sum (\% sprout development) X (Scale)}}{100}$

*** % Sprout Development - On a scale from 0-3; 0 = no sprout initiation
1 = sprout development to less than half the height of the onion
2 = sprout development to more than half the height of the onion
3 = external sprouting

RIDOMIL TREATMENT OF PYTHIUM STUNT IN LETTUCE, 1986

Pythium stunt in lettuce grown on muck soils, can be a very serious disease during cold, wet periods of weather. The lettuce cultivar Ithaca was seeded on May 14, 21, and June 19 in a field that had a history of Pythium stunt. Ridomil 5G (metalaxyl) was applied with the seed in the seed furrow at 4 kg and 20 kg product/ha replicated 2 times at each seeding date. The plots seeded on May 14 and 21 were rated for diseased and missing plants on July 22. The plot seeded on June 19 was rated on August 13.

Ridomil Treatment	% Plants			Metalaxyl Residue (ug/g)
	Diseased	Missing	Healthy	
Check	7.0	21.9	71.1	ND
4 kg/ha	1.5	4.4	94.1	ND
20 kg/ha	3.9	1.7	94.4	0.02-0.14

Conclusion: The plots treated with 4 kg Ridomil/ha produced the best results. Only 1.5% of the plants were diseased and 4.4% of the plants were missing for a total loss of 5.9% of the plants. In the check plots, 7% of the plants were diseased and 21.9% of the plants were missing for a total loss of 28.9%. Metalaxyl residue in the lettuce heads was not detected at the 4 kg/ha rate.

BROADLEAF WEED CONTROL IN ONIONS WITHOUT THE USE OF ALLIDOCHLOR (RANDOX) - 1986

The cultivar Taurus was seeded April 30, in rows 43 cm apart. One row of barley (Bruce) was added to each 8 row plot. The plot size was 3.5m X 5 m. The treatments were replicated three times. The tractor mounted boomsprayer applied 550 L water per ha at a pressure of 140 kPa (20 p.s.i.) except for sethoxydim, which was applied at 300 L/ha and 140 kPa.

Application dates:

pre-emergence	May 13
loop stage	May 16
flag stage	May 23
Evaluation	May 26, June 4, 18

Leaf Stage Dates:

1st true leaf	June 4
3rd true leaf	June 17
5th true leaf	June 30
7th true leaf	July 16

A total of 63 mm of rain fell on May 18 and 19

On June 13 all treatments received an application of sethoxydim 0.35 kg/ha ai (Poast 1.9 L/ha) + Assist 3 L/ha as a barley eradication and grass control.

On Aug. 1, a severe hail storm badly damaged the crop, resulting in reduced yields.

Broadleaf weeds present: Oak-leaved goosefoot (65%); Common groundsel (20%); Maple-leaved goosefoot (5%) Prostrate pigweed (5%); Purslane (2%); Common chickweed (1%); Biennial wormwood (1%); and Ragweed (1%).

Comments:

1. Poor control of common groundsel was the main reason for the cost of hand weeding.
2. Oxyfluorfen applied in the loop stage or flag stage at 0.03 kg/ha ai caused injury.
3. Chlorpropham applied in the loop stage severely injured the barley and nullified its use as a wind break.
4. Chlorpropham applied pre-emergence only controlled the weeds up to the flag stage.
5. Research done in New York state has indicated that oyxfluorfen applied at 0.14 and 0.07 kg/ha ai, pre-emergence to the onion, caused a severe reduction in stand when rain followed the application. In our trial, 63 mm of rain followed within 3 days of the loop stage application of 0.03 kg/ha ai. At this low rate, no reduction in plant stand was observed.

The use of oxyfluorfen prior to the 2nd true leaf stage is not recommended due to potential crop injury.

Conclusion: In view of the comments above, effective broadleaf weed control in onions can not be achieved without the use of allidochlor (Randox) or similar herbicide e.g propachlor (Ramrod).

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BROADLEAF WEED CONTROL IN ONIONS WITHOUT THE USE OF ALLIDOCHLOR (RANDOX) - 1986 - continued

PREEMERGENCE

POSTEMERGENCE

Treatments	Rate kg/ha ai	Applied at	May 26 % Crop Inj.	May 26 % Bar. Inj.	Treatments	Rate kg/ha ai	Applied at True Leaf #	June 18 % Crop Inj.	June 18 % Bar. Inj.	June 18 % BLW Ctl.	June 18 BLW Weed. $/ha	Yield t/ha	Yield b/a
Chlorpropham Oxyfluorfen	8.57 0.03	Loop Flag	25	85	Metolachlor Oxyfluorfen Chlorpropham	2.18 0.03 2.86	1,4 3,6,8 8	0	82	85	277	42	747
Oxyfluorfen Chlorpropham	0.03 8.57	Pre Loop	0	43	Chlorpropham Oxyfluorfen	2.86 0.03	1,2,4,6,8 2,4,6,8	0	53	82	373	44	788
Chlorpropham + Oxyfluorfen	8.57 0.03	Loop	7	83	Chlorpropham Chlorpropham + Oxyfluorfen	2.86 2.86 0.03	1 2,4,6,8	0	88	92	570	43	757
Chlorpropham + Oxyfluorfen	8.57 0.03	Pre	0	17	Chlorpropham Oxyfluorfen	2.86 0.12	2,4,6,8 3,5,7	0	15	33	1047	45	797
Oxyfluorfen	0.03	Loop	23	17	Oxyfluorfen	0.03	3,4,6,8	0	12	48	1742	44	781
Check	-	-	0	0	Check Handweeded Check Not Weeded	-	-	0	10	90	4785	42	750

- Over run with weeds, plots destroyed

+ = tank mixed BLW = broadleaf weeds. Ctl. = control
0.03 kg/ha ai oyxfluorfen = 156 ml/ha Goal (2.25 oz/acre Goal)
8.57 kg/ha ai chlorpropham = 18 L/ha CIPC (6.5 qts/acre CIPC)
2.86 kg/ha ai chlorpropham = 6L/ha CIPC (2.2 qts/acre CIPC)

BLW cost $/ha is based on $6.00/hour

WIND ABATEMENT IN CARROTS - 1986

The carrot variety Chancellor was seeded at 92 seeds/M in muck soil, in 5 cm wide rows, rows 50 cm apart. For wind abatement, barley, variety Bruce, was seeded at 50 kg/ha when broadcasted and at 80 seeds/m when seeded in rows between the carrot rows. Spinach, variety Marathon, was broadcasted at 15 kg/ha. The seeding date was May 29 except for one treatment of broadcasted barley, which was seeded on May 23. The plot size was 5 m X 3 m (6 rows of 50 cm). All treatments were replicated 3 times, in a randomized block design.

Herbicides: - On May 30, half of the treatments received prometryne (Gesagard) at 1.6 kg ai/ha pre-emergence to the carrots. On June 25 sethoxydim (Poast) was applied at 0.35 kg ai/ha + Assist at 3 L/ha to all plots. On June 28 linuron (Lorox) was applied at 1 kg ai/ha to all plots. The carrot plants had 3 true leaves and were 7 cm high. The barley, seeded on May 23 was 35 cm high and the barley seeded on May 29 was 30 cm high.

Application: The tractor mounted boomsprayer applied 550L water/ha at 140 kPa, except in the case of sethoxydim (Poast) when 300 L water was applied at 140 kPa.

Weed Population: Very high numbers of pigweed and common groundsel were observed, while prostrate pigweed, barnyard grass, purslane, and wormwood were also present.

Conclusion:

The barley that was seeded one week prior to the seeding of the carrots, gave excellent wind protection in the early stages but by June 30, when the barley was 35 cm high and the carrots 7 cm high, the barley was damaging the carrots resulting in a reduction of yield.

The barley, broadcasted at seeding time, supplied only fair protection early, but gave excellent protection on June 30.

The barley seeded in rows gave poor early protection, but this improved to fair protection by June 30.

The spinach gave poor wind protection especially in those plots treated with prometryne.

It appears that the barley broadcast seeding rate can be reduced from 50 kg/ha.

The prometryne application did not affect the barley but it severely reduced the crop protection by the spinach. It also greatly reduced the weeding cost and caused some reduction in stand.

WIND ABATEMENT IN CARROTS - 1986

Treatment	Prometryne applied	Wind Break: Herbicide damage June 18	Wind Break: % Crop Protection June 18	Wind Break: % Crop Protection June 30	Weeding $/ha	Mkb. Yield t/ha	Stand /m	% Mkb.
Barley in rows	no	0	25	80	583	57	49	79
	yes	0	25	80	147	54	40	81
Barley-Broadcast One week prior to carrots	no	0	97	100	656	33	43	47
	yes	0	90	100	110	30	34	50
Barley-Broadcast	no	0	50	100	278	51	46	71
	yes	0	48	100	156	48	42	70
Spinach Broadcast	no	0	33	40	497	58	45	77
	yes	50	7	10	217	54	38	77
No Windbreak	no	-	0	0	606	48	45	72
	yes	-	0	0	100	62	39	84
Mean of all Treatments:								
No prometryne					524	49.4	46	69
Prometryne					146	49.6	39	72

COMPARING LOROX DF WITH LOROX W.P. - 1986

Lorox DF is a dry flowable herbicide for use in carrots and was compared with Lorox W.P. in a wettable powder form. Both materials contain 50% linuron, and both were also used with and without Gesagard pre-emergence.

The carrot cultivar Chancellor was seeded in a muck soil on May 29 at 92 seeds/m, in rows 50 cm apart with a Planet Jr. seeder equipped with a 5 cm wide scatter shoe. The plot size was 5 m X 3 m (6 rows @ 50 cm). Each treatment was replicated 4 times.

The tractor mounted boomsprayer applied 550 L water/ha at 140 kPa. Sethoxydim + Assist were applied for grass control. The weed population was high. Weeds present in order of highest #/M^2 were pigweed, groundsel, prostrate pigweed, purslane, goldenrod, and wormwood.

Treatment	Rate kg ai/ha	Applied	Hand Weeding $/ha	YIELD Total t/ha	YIELD Mkb. t/ha	Stand /m
Prometryne; Linuron DF	1.6; 1	pre; post	208	66.0	47	38
Prometryne; Linuron WP	1.6; 1	pre; post	168	68.4	51	42
Linuron DF	1	post	697	72.3	50	47
Linuron W.P.	1	post	701	68.6	52	42

Conclusion

There does not appear to be a significant difference in yield or stand between the dry flowable and the wettable powder materials.

The dry flowable material produced no dust when weighing and handling and there was less foaming in the spray tank.

METOLACHLOR (DUAL) RESIDUE TRIAL - 1986

Objective: To check for metolachlor residue in organic soils.

On June 9, 1985, metolachlor was applied preplant to a field plot of cauliflower, at 0.96 kg/ha ai. A tractor mounted boomsprayer, which applied 550 L water per ha was used. The chemical was not worked into the soil.

In the fall of 1985, the field was worked up with a set of disc harrows and a rotovator.

In the spring of 1986, a cultivator and leveling board was used to prepare the seedbed.

On May 15, 1986, celery, broccoli, onions and lettuce were seeded across the field plot.

During the growing season, the crops were observed for possible visual effects of metolachlor injury. Data was taken on June 30, 1986.

This trial was not replicated.

Results: There were no visual differences in plant population and plant growth when comparing the metolachlor treated plot with the non-treated plots.

PHOSPHATE RATE STUDY ON ONIONS GROWN ON MUCK SOILS - 1986

A plot was chosen that showed a very high soil test value rating of phosphorus and required no phosphate. Nitrogen, potash, and copper sulfate were applied as required by soil test, while phosphate was applied at 0,40,80 and 120 kg/ha P_2O_5.

The onion cultivar Taurus was seeded on April 30 and normal management practices were followed.

The trial was replicated 4 times and data was taken of dates of maturity at 5%, 50%, and 85% of the tops down, and of yield.

Strong winds on Aug 23 and 24 pushed down all tops that were still upright and for the purpose of this study the 50% tops down dates were used as well.

Results:

kg/ha P_2O_5	Yield t/ha	Maturity Date Tops Down	
		50%	85%
0	45.7	August 11	August 23
40	46.5	August 13	August 22
80	45.3	August 11	August 23
120	44.8	August 12	August 24

Conclusion:

No significant differences were found between the treatments and the additional P_2O_5 applied did not advance maturity and had no effect on yield

INCREASE IN BULB SIZE OF HAIL DAMAGED ONIONS - 1986

In the late afternoon of August 1, 1986, a hail storm severely damaged the crops. The purpose of this trial was to see if and how an onion would size up after its leaves were damaged by the hail. Four degrees of leaf damage were judged.

This Observation Trial is non-replicated.

Plant A: severely damaged, 7 leaves remaining, not green, average length 8 cm
B: severely damaged, 5 leaves remaining, green, average length 18 cm
C: severely damaged, 8 leaves remaining, green, average length 20 cm
D: lightly damaged, 9 leaves remaining, green, average length 35 cm

Bulb Diameter (cm)

Plant	August 11	August 12	Sept. 1	Sept. 17	% Increase by weight
A	4.8	4.9	4.9	4.9	7
B	4.4	4.7	4.7 dead	4.7	23
C	5.1	5.5	5.6	5.8	50
D	5.3	5.9	6.2	6.4	80

4.4 cm diameter = 1 3/4"-approximate weight 44g
5.1 cm diameter = 2"-approximate weight 70g
5.7 cm diameter = 2 1/4"-approximate weight 100g

Conclusion: After an onion plant has been damaged, the increase in growth of the bulb is directly related to the number and length of healthy leaves remaining.

RED BEET CULTIVAR TRIAL - 1986

Management Procedures:

Fertilizer was applied at 500 kg/ha 10-10-10 as required by soil sample recommendation. Seeding took place on May 22nd with a V belt seeder equipped with a 5 cm wide scatter shoe, in rows 43 cm apart, at 60 seeds/m. After emergence, the plants were thinned to 40/m. The trial was replicated three times. Eight times, at weekly intervals, the crop was sprayed with an insecticide and a fungicide, and 4 times Manganese sulfate was included in the spray. Harvest and evaluation took palce on Aug. 11,21, and 29.

Legend:

Yield: The size range for prcoessing purposes was 32 to 102 mm in diameter, while for packaging purposes the size range was 32 to 76 mm (1 1/4 " to 3").

Culls: C = severe growth cracks, c = small cracks in shoulder only,
M = misshapen, U = undersize, O = oversize.

Length of Tops: VL = very long, M = medium, S = short

Quality Marks: 5 = Most Desirable

RED BEET CULTIVAR TRIAL - 1986

Cultivar	Source	Yield			% Marketable Packaging	Type of Culls	Weight/Root (g)	Stand/Meter	Length of Tops	Uniformity		Root Colour		
		Processing t/ha	Packaging t/ha	Packaging b/a						Shape	Size	Internal	External	Zoning
Pacemaker II (Hyb)	A&C	64	44	787	52	C,U	108	34	VL	3.6	3.2	4.0	3.7	3.3
Cylindra *	A.Ch.	68	68	1218	80	U,c,M	90	41	L	3.3	3.3	3.8	3.9	3.3
Detroit Supreme	A.Ch.	65	60	1070	83	U,c,M	81	39	S	3.5	3.7	4.0	3.9	3.6
Red Ace	A.Ch.	84	75	1328	82	U,C	98	40	L	3.4	4.0	3.8	3.8	3.6
Asgrow Wonder	Asg	39	38	680	58	C,U,O	71	40	VL	3.7	3.1	3.2	3.9	1.8
Detroit Dark Red	Asg	51	51	904	89	U,C	68	36	L	3.1	3.4	3.3	2.8	2.6
Avenger (Hyb)	HM	51	48	849	65	C,U	95	34	L	3.2	2.9	3.4	3.7	2.5
Ruby Queen	HM	52	47	838	69	C,U	75	39	S	3.9	3.4	3.6	2.9	2.9
Warrior	HM	58	56	1000	91	U	66	41	S	3.7	3.8	3.4	3.6	2.9
Big Red (Hyb)	Jung	70	67	1187	88	C,U	81	41	S	3.5	3.7	3.7	3.0	3.5
Rondoro	NZ	64	61	1083	84	U,C	79	40	M	3.1	3.6	4.1	3.3	4.0
Spinel	NZ	48	46	814	80	U,c	67	37	M	3.4	3.6	4.1	3.3	3.9
Supra	NZ	66	55	983	79	U,c	79	38	M	3.1	3.6	4.1	3.3	4.1
Tardel	NZ	65	61	1080	88	U,c	79	38	M	3.6	3.7	4.0	3.3	3.7
NV 301 **	NK	24	24	424	79	U,c	35	37	VS	4.3	4.0	3.7	4.3	3.0
Ruby Queen	NK	52	45	807	64	C,U	87	35	M	3.9	3.6	3.8	3.2	3.7
Crimson Tide	PETO	74	70	1245	89	U,C	82	42	M	3.7	3.8	3.8	3.4	3.6
Garnet	PETO	50	49	873	87	U,c	69	35	M	3.4	4.0	4.1	2.9	4.0
Sangria	PETO	56	54	962	86	U,c	66	41	M	4.1	3.8	3.9	3.3	3.8
Detroit Nero	RS	57	56	994	85	U,C	66	43	S	3.4	3.8	3.6	3.5	3.3

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RED BEET CULTIVAR TRIAL - 1986- continued

Cultivar	Source	Yield			% Marketable Packaging	Type of Culls	Weight/Root (g)	Stand/Meter	Length of Tops	Uniformity		Root Colour		
		Processing t/ha	Packaging t/ha	Packaging b/a						Shape	Size	Internal	External	Zoning
Detroit Rubidus	RS	61	58	1035	85	U	69	43	M	3.6	3.7	4.2	3.3	4.1
Early Red Ball	Sto	59	56	994	84	U,c	65	44	S	3.3	4.0	3.7	4.0	3.4
Firechief	Sto	46	45	804	91	U,c	55	39	VS	4.2	3.9	3.3	3.9	2.6
Little Mini Ball	Sto	61	50	887	70	U,M	77	40	S	2.7	3.2	3.4	3.4	3.1
Detroit Short Top	Sto	67	57	1011	78	U,c	86	37	M	3.4	3.7	3.3	3.3	2.8
Vermilion	Sto	66	61	1090	86	U,c	84	37	S	3.3	3.7	4.1	3.6	3.8
AVX 3769 **	Sun	47	47	838	92	U	54	41	M	3.7	4.0	4.3	3.7	4.0
AVX 3770 **	Sun	54	54	962	97	U	58	42	S	4.0	4.0	3.7	4.3	3.3
Smoothie	Sun	52	38	669	59	U,c	83	33	L	3.2	2.9	3.4	3.1	3.0
Big Red	UW	67	65	1163	90	U,C	85	37	S	3.5	4.1	4.0	2.7	3.8
Red Baron	FM	72	50	905	64	U,c	115	30	M	4.2	3.7	3.2	4.2	2.0

5 = Most Desirable

* roots cylindrical in shape , averaging 14 cm long

** non-replicated

CARROT CULTIVAR TRIALS 1986 - PACKAGING TYPES

Management Procedure:

Fertilizer was applied as per soil sample recommendations at 500 kg/ha 10-10-30 + 20 kg/ha Borax 11%, and the soil was rotovated to a depth of 25 cm.

The trials were seeded on May 21 in rows 50 cm apart with a V belt seeder equipped with a 5 cm scatter shoe, at 82 seeds/m. The Main Trial was replicated three times.

A severe hail storm badly damaged the carrot foliage on Aug. 1. The wet weather and lack of sunshine in August and especially in September resulted in lower yields, shorter roots, and poor quality tops.

Harvest took place on October 14 and 15, when data was taken of the presence of rusty root, and the quality and the strength of the foliage. The samples were placed in a temperature and relative humidity controlled storage until Nov. 6 when data was taken.

Legend:

Yield: 56 t/ha = 1000 bushels/a
Length and Width: 20 cm = 8 inches
Quality Marks: 5 = Most Desirable
% Horizontal Lesions: The % of roots that have horizontal lesions and/or cavity spots and to what degree these are present on the roots. 55 VL means that 55% of the roots have very few and very small lesions. L = lightly affected, a few and small lesions, M = medium, H = many and large cavity spots, roots unmarketable.

Foliage: Due to the extreme wet weather and the resulting deterioration of the foliage, tolerance to leaf blights could not be established. Instead, the cultivars were evaluated for quality and strength of foliage at time of harvest.
Slicer Types: The degree to which the shape of the roots makes it suitable for slicers. See index for list.
Score: The average of the marks given for uniformity, appearance, resistance to greening, colour, and core size.

The Main Trial is listed in order of length of the roots.

Observation Trials: 80 numbered packaging and processing lines were grown at the station for the benefit of those interested. Data was taken of presence of horizontal lesions, rusty root, strength of foliage, internal colour, length and width of roots. An estimate of marketable yield and % marketable was also made. This information was sent to the suppliers of the seed samples and is available upon request.

CARROT CULTIVAR MAIN TRIAL - 1986 - PACKAGING TYPES

Cultivars	Source	Marketable Yield t/ha	Marketable Yield b/a	% Oversize	% Marketable	Roots: Length (cm)	Roots: Width (cm)	Uniformity: Shape	Uniformity: Size	Appearance	Resistance to Greening	Colour: Internal	Colour: External	Core Size	Score	% Horizontal Lesions & Degree	Rusty Root	Foliage
Six Pak	HM	67	1196	10	84	21	3.2	4.3	4.0	4.2	3.7	3.8	4.0	4.1	4.01	67VL	5.0	3.3
Cimarron	HM	64	1132	15	79	20	3.2	4.0	3.9	3.9	3.9	3.8	4.2	3.7	3.91	57L	4.3	2.7
Canada Super X *	PES	45	808	6	66	20	2.9	3.9	3.8	3.6	3.8	3.7	3.9	4.1	3.83	80L	5.0	2.0
Cellobunch *	Asg	78	1391	9	87	20	3.2	3.9	4.0	4.2	3.9	4.0	4.0	3.7	3.96	47L	5.0	1.7
Vitasweet 721	A&C	59	1049	14	76	19	2.9	4.0	3.8	3.8	4.2	4.3	4.1	4.1	4.04	80L	4.0	2.0
Seminole	Sto	52	917	7	72	19	3.0	3.7	4.0	3.6	4.1	4.3	4.3	3.6	3.94	97L	4.0	2.7
Harvestmore	Sieg	64	1141	17	79	19	3.1	3.7	3.8	3.5	3.8	3.7	4.0	3.9	3.77	63L	4.3	2.3
Orlando Gold	A.Ch.	57	1019	10	80	19	3.0	4.0	3.8	3.8	4.2	3.8	4.1	4.0	3.96	77L	4.3	2.7
Gold Strike	Sieg	67	1189	22	85	19	3.0	4.0	3.7	3.8	3.8	4.0	4.0	3.8	3.87	90L	4.3	2.3
Huron (ARCO 178)	ARCO	61	1086	11	80	19	3.0	4.2	4.1	3.9	4.0	3.9	4.1	4.0	4.03	86M	4.0	3.3
Caropak	Asg	67	1197	27	88	19	3.1	3.8	3.6	3.9	4.0	3.7	4.1	3.4	3.79	52L	4.7	2.7
Top Pak	HM	64	1130	17	83	19	2.9	3.9	3.6	3.8	3.7	3.6	4.1	3.7	3.77	50L	4.3	2.3
Britepak	A&C	57	1005	10	80	19	2.9	3.9	3.8	3.6	4.2	3.6	4.0	3.8	3.84	70L	4.0	3.0
Sprinter	HM	60	1073	13	80	19	3.0	3.9	3.8	3.7	4.0	3.3	3.9	3.3	3.70	90L	4.0	3.0
Six Pak II	HM	63	1120	8	82	19	3.0	3.9	3.8	3.7	4.0	3.8	4.1	3.4	3.81	87VL	4.7	3.0
Aristo Pak	Cro	62	1106	8	83	19	3.0	3.9	3.8	3.9	4.1	3.8	4.0	3.9	3.91	67L	3.7	2.3
Diplomat	Asg	61	1080	8	71	19	3.0	3.8	3.6	3.7	3.8	3.7	4.1	3.8	3.79	87L	5.0	2.3
Pak Mor	HM	52	926	6	75	19	3.0	3.7	3.9	3.6	4.2	3.5	3.8	3.3	3.71	87L	4.3	3.0
Debut	Asg	58	1037	15	72	19	3.1	3.7	3.8	3.6	4.0	4.0	3.8	4.0	3.84	72L	4.7	2.7
Sixpence	HM	57	1006	4	72	18	2.8	3.3	3.7	3.2	4.2	3.8	4.1	3.7	3.71	71M	4.3	2.3
Orange Sherbet	Sto	55	970	7	69	18	2.9	3.7	3.6	3.4	3.9	3.7	3.9	3.8	3.71	70L	4.7	2.3
Chrisna *	A.Ch.	69	1236	11	84	17	3.1	3.5	4.0	3.8	3.9	4.0	4.0	3.9	3.87	70L	4.7	2.0
Vitasweet 500 *	A&C	80	1426	10	85	15	3.1	4.1	4.1	3.0	3.3	3.9	3.9	3.9	3.74	73L	4.7	2.3
Titan	NZ	69	1236	19	80	14	3.1	3.5	3.7	2.7	3.3	4.0	3.8	3.9	3.56	77L	5.0	2.0

* These varieties were found to have weak tops.

5 = Most Desirable

Listed in order of length

CARROT CULTIVAR ADAPTATION TRIAL - 1986 - PACKAGING TYPES

Cultivar	Source	Marketable Yield t/ha	Marketable Yield b/a	% Oversize	% Marketable	Type	Roots Length (cm)	Roots Width (cm)	Uniformity Shape	Uniformity Size	Appearance	Resistance to Greening	Colour Internal	Colour External	Core Size	Score	% Horizontal Lesions & Degree	Foliage
Vitasweet 741	A&C	58	1040	11	60	GN	18	3.3	3.7	4.0	4.0	3.7	4.0	4.0	4.0	3.91	90L	3
Vitasweet 751	A&C	51	906	3	72	G	19	3.0	3.7	4.0	3.7	4.0	4.0	4.3	3.7	3.91	60L	3
Vitasweet 761	A&C	75	1339	5	85	GI	21	2.8	4.0	4.3	4.3	4.3	3.7	4.0	4.0	4.09	60VL	3
A Plus	A.Ch.	72	1285	12	77	GN	18	3.0	4.0	4.0	4.0	4.0	4.3	4.7	4.3	4.19	100L	3
Candy Pak	A.Ch.	75	1342	13	86	G	18	3.0	4.0	3.7	4.0	4.3	4.0	4.3	4.0	4.04	90L	3
Golden State	A.Ch.	77	1378	4	80	GI	20	3.0	4.0	4.0	4.0	4.0	4.3	4.3	4.3	4.13	70L	3
Gold Pak 28C	A.Ch.	86	1527	17	87	G	19	3.1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.70	40L	3
Ingot	A.Ch.	67	1187	3	82	G	16	2.8	3.3	4.0	3.3	3.7	3.7	4.0	4.0	3.71	70L	2
Apache	ARCO	75	1339	22	82	LD	18	3.2	3.7	4.0	4.0	4.0	4.0	4.3	3.0	3.81	70VL	3
Dart	ARCO	64	1139	7	72	G	19	3.2	3.7	4.0	4.0	3.7	3.7	4.7	3.7	3.93	80L	3
Golden State	ARCO	58	1040	2	63	GI	21	3.0	4.0	4.0	4.0	4.0	4.3	4.7	4.0	4.14	90VL	3
Savory	ARCO	58	1027	0	71	G	20	3.0	4.0	4.3	4.0	4.0	4.3	4.3	3.7	4.09	100L	2
ARCO 255	ARCO	60	1063	0	81	G	18	2.8	4.3	4.0	4.0	4.3	4.3	4.3	3.7	4.13	80VL	3
ARCO 262	ARCO	73	1299	7	71	G	19	3.3	4.0	4.0	4.0	4.0	4.0	4.0	3.7	3.96	100L	3
Scarlet Nantes	Asg	56	999	17	72	N	14	3.1	3.0	3.0	2.0	3.0	3.7	4.0	3.7	3.20	100L	1
Sp. Fancy 80	Asg	43	757	8	63	G	18	2.8	3.7	4.0	3.7	4.0	4.0	4.3	3.7	3.91	100L	2
Imperial	Cro	46	810	5	61	GI	21	3.0	3.7	4.0	3.7	3.7	3.0	3.7	3.7	3.64	60L	3
Main Pak 84	Cro	46	822	3	70	G	18	2.9	3.7	4.0	3.7	3.7	3.7	4.0	3.7	3.79	90L	3
Packer 84	Cro	34	600	3	45	G	18	3.1	3.7	4.0	3.7	3.7	3.3	3.7	3.7	3.69	100L	3
24 Karat	FM	53	947	4	78	GI	21	3.1	4.3	4.3	4.0	4.3	3.7	3.7	3.7	4.04	100L	2
Sp. Fancy 80	JHK	43	764	0	55	G	19	3.0	3.7	3.7	3.7	3.7	4.0	4.0	3.7	3.79	80L	2
Sp. Premium 80	JHK	62	1105	6	73	G	18	3.0	3.7	4.3	4.0	3.7	4.0	4.0	4.0	3.96	100L	1
Caramba	NK	30	541	0	43	N	16	2.9	4.3	4.0	3.3	2.3	3.7	4.0	4.0	3.66	60L	3
Cello King	NK	51	911	3	69	G	19	3.0	4.0	3.7	3.7	4.0	4.0	4.0	3.7	3.87	90L	3
Discovery	NK	47	838	9	79	GI	21	2.9	4.3	4.0	4.3	4.3	4.0	4.3	3.7	4.13	60L	3

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CARROT CULTIVAR ADAPTATION TRIAL - 1986 - PACKAGING TYPES - continued

Cultivar	Source	Marketable Yield t/ha	Marketable Yield b/a	% Oversize	% Marketable	Type	Roots Length (cm)	Roots Width (cm)	Uniformity Shape	Uniformity Size	Appearance	Resistance to Greening	Colour Internal	Colour External	Core Size	Score	% Horizontal Lesions & Degree	Foliage
Fanci-Pak	NK	85	1518	20	84	GI	21	3.3	4.0	4.0	4.0	4.0	3.0	4.3	3.7	3.86	80L	4
Royal Nantes	NK	56	997	3	75	N	13	3.0	3.3	4.0	3.0	3.0	3.7	4.0	3.7	3.53	50L	2
Tip Top	NK	71	1255	22	76	N	15	3.2	4.0	4.0	3.3	3.7	3.7	4.0	3.3	3.71	100L	2
Nantes Tito	NZ	59	1043	0	68	N	15	3.2	3.0	3.7	3.0	3.0	3.0	3.7	3.7	3.30	80M	2
Rumba	NZ	49	879	2	66	ND	13	3.5	3.3	3.3	3.0	4.0	4.0	4.0	4.0	3.66	100L	1
Goodpak	PES	64	1141	14	85	G	20	3.1	3.7	4.3	4.3	4.0	3.0	3.7	3.0	3.80	70L	3
Nantes PW Imp.	PETO	73	1298	24	64	DN	15	4.1	3.0	3.0	1.0	2.7	2.3	3.7	3.7	2.77	90M	3
Prospector	PETO	69	1219	8	77	G	20	3.0	4.3	4.0	4.3	4.0	4.0	4.3	4.0	4.13	90L	3
Scout	PETO	47	833	4	78	IG	23	2.7	4.7	4.3	4.3	4.3	3.7	4.0	3.7	4.14	80L	3
Clairon F_1R.S.	RS	46	819	4	64	N	15	3.0	3.7	3.7	3.3	3.3	4.0	4.0	4.0	3.71	80L	2
Rondino F^1	RS	69	1223	5	74	NG	19	3.3	3.3	4.0	3.3	3.3	4.0	4.0	3.0	3.56	60L	3
Cello King	Sieg	62	1109	5	77	G	18	2.7	4.0	4.0	4.0	4.0	4.0	4.3	3.7	4.00	20VL	2
Discovery	Sieg	66	1182	5	77	G	19	2.7	3.7	4.0	4.0	4.3	4.0	4.3	4.0	4.04	90L	3
Apache	Sto	75	1337	9	87	DG	18	3.2	4.0	3.7	3.7	3.7	4.0	4.3	3.0	3.77	70L	3
A Plus	Sto	67	1187	11	76	G	19	3.1	3.7	3.7	4.0	4.0	3.7	4.3	4.0	3.91	90L	3
Canuck	Sto	79	1401	9	81	G	20	3.0	3.7	3.7	3.7	3.3	3.7	4.0	4.0	3.73	80L	2
Dagger 78	Sto	63	1120	8	86	G	21	3.0	4.3	4.0	4.3	3.7	4.3	4.3	4.3	4.17	80VL	3
Earlibird Nantes	Sto	81	1449	20	75	N	13	3.4	4.0	4.0	3.0	3.0	3.3	3.7	3.7	3.53	80L	1
Gold Pak 28	Sto	61	1077	5	80	G	20	3.2	3.7	3.7	3.7	3.0	3.7	3.7	3.3	3.54	70VL	3
Imperator 408	Sto	46	822	21	83	GI	20	2.9	4.0	3.7	3.7	3.7	3.0	3.7	3.3	3.59	80L	3

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CARROT CULTIVAR ADAPTATION TRIAL - 1986 - PACKAGING TYPES - continued

Cultivar	Source	Marketable Yield t/ha	Marketable Yield b/a	% Oversize	% Marketable	Type	Roots Length (cm)	Roots Width (cm)	Uniformity Shape	Uniformity Size	Appearance	Resistance to Greening	Colour Internal	Colour External	Core Size	Score	% Horizontal Lesions & Degree	Foliage
King Imperator	Sto	67	1200	36	77	G	21	3.1	4.0	3.3	3.7	3.7	3.3	4.0	3.3	3.61	60L	4
Spartan Premium	Sto	51	903	5	77	G	18	3.2	3.3	3.3	3.7	3.7	3.7	4.0	4.0	3.67	70L	3
Crunchy	Sun	41	723	5	57	G	18	3.3	3.3	3.7	3.3	3.7	3.7	3.7	3.7	3.59	100L	3
Dominator	Sun	51	901	13	70	DG	18	3.0	3.7	3.7	3.3	3.7	3.3	3.7	3.7	3.59	80L	4
Goldmine	Sun	51	910	3	70	G	19	3.0	4.0	4.0	3.7	3.7	3.0	3.7	4.3	3.77	80L	4
Mini Express	Tak	7	125	0	33	BN	11	2.2	4.3	4.0	1.0	3.3	3.7	4.0	4.0	3.47	80L	1
Scarlet Wonder	Tak	Not adaptable - 100% seeder																
Nanco	VIL	56	993	5	76	N	15	2.9	3.3	4.0	3.0	4.0	3.7	4.0	3.7	3.67	80M	2
Presto	VIL	25	438	0	24	N	15	3.0	3.0	3.3	2.0	3.7	3.0	3.7	3.7	3.20	80VH	2
Primo	VIL	66	1180	4	88	NG	14	3.2	3.7	4.3	3.7	3.7	3.7	4.3	4.0	3.91	100L	2
Tino	VIL	83	1469	15	82	N	15	3.0	4.0	3.3	3.0	3.7	3.0	3.7	3.7	3.49	80L	3

5 = Most Desirable

The cultivars Vitasweet 741, Main Pak 84, Nantes Tito, Rumba, and Presto were found to be quite badly affected by rusty root.

Root Types: G = Goldpak, I = Imperator, N = Nantes, LD = Long Danvers, D = Danvers, BN = Baby Nantes

For further information see Carrot Packaging write up.

CARROT CULTIVAR STORAGE TRIAL 1985-86 - PACKAGING

Cultivar	Source	% Marketable	% Weight Loss In Storage	% Decay	Degree * of Decay
Candy Pak	Cro	80	16	4	2.0
A Plus	A.Ch.	79	16	5	2.0
Sweet 'n Crisp	Cro	77	14	9	2.3
Six Pak II	HM	76	15	9	1.7
Vitasweet 721 tm	A&C	76	15	9	2.7
Chancellor	Asg	74	15	11	2.7
Orange Sherbet	Sto	73	15	13	2.7
Golden State	A.Ch.	72	17	11	2.0
Goldmine	Sun	72	14	14	1.7
Dagger 78	ARCO	69	16	15	2.3
Orlando Gold	Sto	69	16	15	2.0
Vitasweet 750 tm	A&C	67	16	17	2.0
Harvestmore	Cro	65	18	17	1.7
Six Pak	HM	65	15	20	2.3
Diplomat	Asg	65	15	20	1.7
Cellobunch	Asg	64	15	21	1.7
Caropak	Asg	64	17	19	2.0
Dart	ARCO	63	17	20	1.3
Paramount	Asg	61	16	23	2.3
Flavorpak	Cro	60	16	24	1.3
Aristopak	Cro	59	16	25	1.3
Britepak	A&C	58	14	28	1.3
Cimarron	HM	57	18	25	2.0
Packer '83	Cro	54	15	31	2.0
Average		**67**	**16**	**17**	**2.0**

*** 5 = Most Desirable, no decay**

Harvested October 9, 1985, placed in "Filacell" storage .
Replicated 3 times. Judged June 25, 1986.
Total Storage period = 37 weeks Listed in order of % marketable

LONG TERM AVERAGES - CARROT CULTIVAR STORAGE TRIAL - PACKAGING

Cultivar	Source	# Years Tested	% Mkb.	% Weight Loss in Storage	% Decay	Degree* of Decay
Spartan Classic 80	Sto	4	90.8	6.8	2.4	3.5
Spartan Delux	Cro	4	88.5	8.0	3.5	3.8
Trophy	HM	5	88.2	9.0	2.8	3.8
King Imperator	Sto	3	88.0	7.3	4.7	3.7
Canuck	Sto	6	87.0	8.6	4.4	4.5
Spartan Fancy 80	Asg	3	87.0	9.7	3.3	3.5
Gold Pak 28	Sto	3	86.7	10.0	3.3	4.2
Hipak	HM	4	86.2	9.3	4.5	4.1
Spartan Sweet 'A'	Cro	4	86.1	7.6	6.3	3.5
Spartan North 'A'	Cro	5	85.8	9.4	4.8	3.6
Spartan Fancy	Sto	3	85.7	9.3	5.0	3.8
Klondike Nantes	Sto	4	85.6	8.1	6.3	3.7
Candy Pak	Cro	8	84.6	11.3	4.1	2.9
Lance	Sto	4	84.8	8.5	6.7	2.9
Grenadier	HM	5	84.6	8.8	6.6	3.6
Cutlass	ARCO	4	84.3	9.3	6.4	3.5
Goldpak 263	Asg	4	83.9	9.0	7.1	3.7
Dominator	Sun	4	83.5	9.3	7.2	3.1
Spartan Delite 80	Asg	3	83.3	11.0	5.7	3.5
Orange Sherbet	Sto	4	82.0	11.0	7.0	3.2
Saber 78	ARCO	4	81.4	10.8	7.8	3.1
Dagger 78	ARCO	5	78.9	13.3	7.8	3.4
Pak Mor	HM	4	78.5	11.5	10.0	3.1
Chancellor	Asg	5	76.5	12.7	10.8	2.1
Six Pak	HM	5	76.4	13.5	10.1	3.3
Sweet n' Crisp	Cro	3	75.9	15.7	8.4	2.8
Six Pak II	HM	3	75.5	14.3	10.2	1.8
Orlando Gold	Sto	3	73.5	16.9	9.6	2.1
Paramount	Asg	3	73.0	13.3	13.7	3.1
Flavor Pak	Cro	3	72.3	15.5	12.2	2.6
Aristo Pak	Cro	3	70.6	14.7	14.7	2.1
Diplomat	Asg	3	69.7	15.3	15.0	3.0

* 5 = Most Desirable

Storage period was usually 9 months.

Listed in order of % marketable

LONG TERM AVERAGE OF CARROT CULTIVARS - PACKAGING TYPES

Cultivar	Source	# Years Tested	LTA Length cm	LTA Length Inches	LTA Mkb. Yield t/ha	LTA Mkb. Yield b/a	% Marketable	LTA Score
Javelin 80	ARCO	4	23.60	9.29	55.75	991	85	4.13
Spartan North	Cro	7	23.25	9.15	66.95	1192	85	4.20
Candy Pak	Cro	9	23.06	9.08	67.48	1201	86	4.27
Spartan Delite 80	MSU	4	22.88	9.01	75.25	1376	89	4.08
Orlando Gold	Sto	5	22.83	8.99	66.16	1178	84	4.18
Dagger 78	ARCO	7	22.78	8.98	69.67	1240	84	4.24
Cutlass	ARCO	6	22.58	8.89	67.57	1203	81	4.02
Saber 78	ARCO	5	22.48	8.85	61.32	1091	85	4.10
Harvestmore	Cro	5	22.14	8.72	69.29	1233	84	3.86
Six Pak	HM	7	22.11	8.71	72.49	1290	88	4.16
Nuggeteer	FM	7	22.05	8.68	65.00	1158	80	3.91
Spartan Fancy 80	Cro	4	22.00	8.66	68.50	1219	84	4.01
Sweet-N-Crisp	Cro	4	21.82	8.60	69.68	1240	86	3.92
Flavor Pak	Cro	4	21.73	8.56	73.43	1307	89	3.97
Imperator 58	Cro	9	21.69	8.54	50.34	896	78	3.64
Trophy	HM	10	21.60	8.50	64.02	1140	84	3.99
Gold Pak 263	Asg	6	21.58	8.50	60.67	1079	85	3.91
Golden State	A.Ch.	2	21.55	8.48	61.00	1077	80	4.13
Orange Sherbet	Sto	7	21.44	8.44	64.30	1145	84	3.80
Lance	ARCO	6	21.22	8.35	64.98	1156	83	4.08

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LONG TERM AVERAGE OF CARROT CULTIVARS - PACKAGING TYPES - continued

Cultivar	Source	# Years Tested	LTA Length cm	LTA Length Inches	LTA Mkb. Yield t/ha	LTA Mkb. Yield b/a	% Marketable	LTA Score
Spartan Premium 80	Cro	4	21.20	8.35	80.75	1437	86	3.95
Caropak	Asg	6	21.19	8.34	69.88	1244	85	3.88
Cimarron	HM	3	21.17	8.33	69.33	1234	84	3.90
Britepak	A&C	6	21.17	8.33	65.43	1165	81	3.88
Grenadier	HM	14	21.11	8.31	65.94	1173	84	3.98
Spartan Winner 80	Cro	3	21.10	8.31	73.33	1306	82	3.78
Chancellor	Asg	5	21.10	8.31	68.00	1210	81	3.87
Goldmine	Sun	2	21.00	8.27	67.00	1193	86	3.67
Sierra	Agri	4	20.96	8.25	67.43	1200	84	3.92
Canuck	Sto	15	20.94	8.24	62.69	1116	82	3.99
Debut	Asg	3	20.89	8.22	67.53	1202	79	3.89
Diplomat	Asg	6	20.80	8.19	71.17	1267	84	3.93
Vitasweet 721	A&C	3	20.76	8.17	64.20	1143	79	4.09
Gold Pak 28	FM	12	20.76	8.17	55.91	996	85	3.84
Aristo Pak	Cro	4	20.75	8.17	71.75	1277	88	3.86
Pak Mor	HM	5	20.74	8.16	62.40	1111	81	3.79
Paramount	Asg	7	20.55	8.10	82.14	1462	85	3.89
Six Pak II	HM	4	20.50	8.07	72.50	1291	87	4.03
Spartan Sweet 'A'	Cro	13	20.33	8.00	69.68	1240	82	4.12

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LONG TERM AVERAGE OF CARROT CULTIVARS - PACKAGING TYPES - continued

Cultivar	Source	# Years Tested	LTA Length cm	LTA Length Inches	LTA Mkb. Yield t/ha	LTA Mkb. Yield b/a	% Marketable	LTA Score
Cellobunch	Asg	6	20.31	8.00	81.28	1447	85	3.90
Dart	ARCO	2	20.30	7.99	70.00	1246	78	3.80
King Imperator	NK	10	20.19	7.95	52.71	938	83	3.75
Spartan Delux	MSU	9	19.96	7.86	70.80	1260	84	3.97
Dominator	Sun	13	19.74	7.77	63.88	1137	85	3.85
Klondike Nantes	Sto	10	19.59	7.71	72.10	1283	85	3.87
Hipak	HM	13	19.26	7.58	65.46	1166	86	3.84
A Plus	Asg	2	19.00	7.48	54.00	961	65	4.08
Spartan Classic 80	Cro	3	17.93	7.05	63.33	1127	78	3.78
Pioneer	HM	10	16.60	6.54	64.00	1139	81	3.61
Vitasweet 500	A&C	3	15.80	6.22	82.25	1464	82	3.76
Scarlet Nantes	Asg	8	14.50	5.71	66.00	1175	75	3.46

5 = Most Desirable

Listed in Order of Length

CARROT CULTIVAR TRIAL - PROCESSING TYPES

Management Procedures:

Fertilizer: 700 kg/ha 7-7-20 + 20 kg/ha Borax was worked in deeply with a rotovator. Seeding was done on May 15 with a V belt seeder equipped with a 5 cm wide scatter shoe, in rows 50 cm apart, at 45 to 53 seeds/m depending on germination.

On Aug. 1 a severe hail storm badly damaged the carrot foliage. The weather in August and especially in September was extremely wet and lacked sunshine, resulting in lower than normal yields, shorter roots and poor quality tops at harvest time.

At harvest on Oct. 20, data was taken of the presence of rusty root and the quality of the foliage. The roots were placed in a temperature and relative humidity controlled storage, until mid November, when the samples were evaluated.

The Main Trial was replicated three times.

Evaluation:
5 = Most Desirable.
The cultivars in the Main Trial are ranked in order of colour marks received.

Yield: 56 t/ha = 25t/a = 1000 bushels/a.

Crownshape: A hollow crown receives a lower mark

Score: The average of the 10 preceding marks, including smoothness (not listed)

% Horizontal Lesions: The % of roots that have horizontal lesions and/or cavity spots and to what degree these are present on the roots. 55VL means that 55% of the roots have very few and very small lesions. L = lightly affected, a few and small lesions, M = medium, H = many and large cavity spots, roots unmarketable.

Rusty Root: Some cvs showed signs of a late attack of rusty root, usually without effect on the root development. In the Adaptation Trial the marks are not listed (see note on bottom of page).

Foliage: In order to establish tolerance to leafblights, no fungicides were applied after Sept. 1st. However, due to the wet weather, and the resulting deterioration of the foliage, the tolerance to leafblights could not be established. Instead, the cultivars were evaluated for quality and strength of the foliage at time of harvest.

Slicer Types: Cultivars with a perfect cylindrical shape received a mark of 5. Due to lack of space these marks are not listed. For a list of cultivars suitable for slicers see index.

CARROT CULTIVAR MAIN TRIAL - 1986 - PROCESSING TYPES

Cultivar	Source	Marketable t/ha	Weight/Root (g)	% Marketable	Roots		Uniformity	Crown Shape	Core Size	Green Shoulders	Colour					Score	% Horizontal Lesions & Degree	Rusty Root	Foliage
					Length (cm)	Width (cm)					External	Cortex	Camb. Zone	Core	Uniformity				
Camden	ARCO	82	176	95	16	5.3	3.6	3.6	3.1	3.8	4.1	4.2	4.1	4.1	4.3	3.90	60VL	5.0	3.0
Flamant	NZ	76	205	86	23	4.8	4.0	3.9	3.3	4.0	4.1	4.1	4.1	3.8	4.0	3.94	78L	4.3	2.7
Dess Dan	ARCO	76	165	89	18	4.6	3.4	3.6	3.6	3.7	4.0	4.1	3.9	3.9	4.1	3.83	73VL	4.0	3.0
Processor II	Sto	96	176	96	16	5.3	3.8	3.6	3.1	3.6	3.9	4.1	3.9	3.9	4.0	3.81	97VL	5.0	3.3
A & C 126	A&C	63	176	77	17	5.2	3.3	3.7	3.6	3.9	4.0	4.1	3.9	3.9	3.9	3.83	73L	4.0	2.3
Giant 114	PES	72	236	86	20	5.1	3.2	4.0	2.7	3.1	3.9	4.0	4.0	3.7	3.9	3.61	90L	3.3	4.0
Spartan Bonus 80	Asg	65	158	87	17	4.9	3.7	3.6	3.3	3.9	3.9	3.8	3.8	3.8	3.9	3.77	57L	4.3	2.7
XPH 875	Asg	66	195	88	21	4.8	3.8	3.9	3.4	3.9	3.9	3.9	3.7	3.8	3.8	3.82	73VL	4.7	3.0
Casey	Asg	68	160	86	18	5.0	3.4	3.7	3.6	3.7	4.2	4.1	3.4	3.8	3.6	3.76	65L	4.3	3.7
ARCO 209	ARCO	73	218	81	21	4.6	3.6	3.7	3.2	3.6	4.1	4.0	3.6	3.7	3.7	3.72	87L	4.3	2.3
Flarino	NZ	69	170	87	16	5.0	3.6	3.6	3.1	3.5	4.0	4.2	3.3	3.7	3.7	3.68	52L	5.0	3.0
Red Core Chantenay	Asg	80	150	95	12	5.7	3.3	3.2	2.9	3.2	3.8	3.8	3.7	3.7	3.8	3.54	60M	3.3	4.0
Mark II (FMX-105)	FM	68	255	74	16	6.3	3.4	3.3	3.3	3.4	3.9	3.9	3.3	3.8	3.7	3.60	80L	4.3	3.3
ARCO 294	ARCO	59	200	70	20	4.5	4.0	3.8	2.9	3.2	3.9	3.7	3.8	3.3	3.6	3.62	83H	4.0	1.7

5 = Most Desirable

Listed in order of colour marks received. ARCO 209 and ARCO 294 can be used as slicer types.

The marks for smoothness are not listed, all cultivars received good marks, except Giant 114 which received a 3.6.

CARROT CULTIVAR ADAPTATION TRIAL - 1986 - PROCESSING TYPES

Cultivar	Source	Mkb. t/ha	Weight/Root (g)	% Marketable	Roots: Length (cm)	Roots: Width (cm)	Uniformity	Crown Shape	Core Size	Green Shoulders	Colour: External	Colour: Cortex	Colour: Camb. Zone	Colour: Core	Colour: Uniformity	Score	% Horizontal Lesions & Degree	Foliage
Spartan Bonus '80'	Cro	71	191	88	17	5.2	3.7	3.7	3.7	3.7	4.3	4.3	4.0	4.3	4.0	3.97	70VL	3
Gold King	NK	106	227	90	16	5.8	4.0	3.3	3.7	4.0	3.7	3.7	3.3	3.3	3.7	3.70	90L	3
Berdino	NZ	69	180	90	21	4.5	4.3	4.0	3.7	4.0	4.3	4.0	4.0	4.0	4.0	4.03	60L	2
Bonchant F_1	NZ	86	216	91	20	5.0	4.0	3.7	3.7	4.0	3.7	3.7	4.0	4.0	4.0	3.88	80L	3
Chantenay Comet	NZ	57	230	72	13	5.7	3.7	3.7	3.3	3.7	4.0	4.3	4.0	4.0	4.0	3.90	10L	4
Flandria	NZ	121	226	91	19	5.6	3.7	4.0	2.7	2.7	4.0	4.0	4.0	4.0	4.3	3.77	100VL	4
Goldini	NZ	59	218	91	22	5.1	4.0	3.7	3.0	4.0	4.0	4.0	3.7	4.0	3.7	3.81	100VL	3
Karaf	NZ	42	255	77	20	5.2	4.0	4.0	3.0	3.7	4.0	4.0	3.7	3.7	3.7	3.78	90L	4
Perchant F_1	NZ	85	174	86	16	4.9	4.0	3.3	3.7	3.0	4.0	4.3	4.0	4.0	4.0	3.86	80L	3
Rosal F_1	NZ	62	213	76	17	4.6	4.0	4.0	3.0	3.0	3.7	4.3	4.0	3.7	3.7	3.74	50M	3
Chantenay Royal	PETO	58	130	80	12	5.2	3.0	3.7	3.7	3.3	3.7	3.7	3.7	3.7	4.0	3.65	50M	3
Adorno F_1	RS	91	218	90	20	5.1	4.0	4.0	3.0	3.7	4.0	4.3	4.0	4.0	3.7	3.87	80VL	4
Canio F_1	RS	52	139	67	13	5.0	3.3	3.7	3.7	3.7	4.0	4.0	4.0	4.0	4.0	3.84	70L	2
Fedora F_1	RS	80	232	85	22	4.9	4.3	4.0	3.7	3.3	4.0	4.0	4.0	3.7	4.0	3.90	60VL	3
Lindoro F_1	RS	53	169	67	17	4.4	4.3	4.0	3.7	2.7	3.7	4.0	3.7	3.7	3.7	3.75	90M	2
Dess Dan	Sto	100	227	83	20	4.8	4.7	3.7	4.0	3.0	4.0	4.3	4.0	3.7	4.0	3.97	50L	3
All Season Cross	Tak	49	166	64	16	4.7	4.0	3.3	3.7	4.0	3.7	3.7	3.0	3.7	3.0	3.64	90M	3
Coral II	Tak	34	191	36	15	5.3	4.0	3.3	4.0	4.0	4.0	4.3	2.0	3.7	3.0	3.66	100L	4
Royal Cross	Tak	30	215	26	16	5.7	3.3	3.7	3.3	3.3	3.7	3.7	3.3	3.7	3.3	3.56	80H	4

Some cottony core was found in Perchant and Coral II, some hollow cores were observed in Flandria. The cultivar Goldini had weak tops.

The best slicer type cultivars were Lindoro, Rosal, and Berdino. The only cultivar seriously affected by Rusty Root was Karaf.

5 = **Most Desirable** For further information see Carrot Processing Trial write up.

BEST SLICER TYPE CARROT CULTIVARS IN 1986 TRIALS

Cultivar	Source	Marketable t/ha	% Marketable	Root Length (cm)	Eye Appeal	Green Shoulder	Colour		Core Size	% Horizontal Lesions & Degree	Rusty Root	Foliage	Slicer	Score
							Internal	External						
Vitasweet 500	A&C	80	85	14.6	3.7	3.3	3.9	3.9	3.9	73L	4.7	2.3	4.1	3.74
Vitasweet 741	A&C	58	60	17.9	3.9	3.7	4.0	4.0	4.0	90L	3.0	3.0	4.0	3.91
ARCO 209	ARCO	73	81	21.0	3.8	3.6	3.8	4.1	3.2	87L	4.3	2.3	3.8	3.72
ARCO 294	ARCO	59	70	20.0	4.0	3.2	3.6	3.9	2.9	83H	4.0	1.7	4.1	3.62
Caramba	NK	30	43	15.8	3.9	2.3	3.7	4.0	4.0	60L	4.0	3.0	4.3	3.66
Royal Nantes	NK	56	75	13.0	3.4	3.0	3.7	4.0	3.7	50L	5.0	2.0	4.0	3.53
Tip Top	NK	71	76	15.0	3.8	3.7	3.7	4.0	3.3	100L	5.0	2.0	4.3	3.71
Berdino	NZ	69	90	21.0	4.2	4.0	4.0	4.3	3.7	60L	5.0	2.0	4.0	4.03
Rosal F_1	NZ	62	76	17.0	4.0	3.0	4.0	3.7	3.0	50M	4.0	3.0	4.0	3.74
Titan	NZ	69	80	14.2	3.3	3.3	4.0	3.8	3.9	77L	5.0	2.0	4.2	3.56
Clairon F_1	RS	46	64	15.0	3.6	3.3	4.0	4.0	4.0	80L	5.0	2.0	4.3	3.71
Lindoro	RS	53	67	17.0	4.2	2.7	3.8	3.7	3.7	90M	5.0	2.0	4.3	3.75
Rondino F^1	RS	69	74	19.4	3.5	3.3	4.0	4.0	3.0	60L	5.0	3.0	4.3	3.56
Earlibird Nantes	Sto	81	75	13.3	3.7	3.0	3.3	3.7	3.7	80L	5.0	1.0	4.0	3.53
Nanco	VIL	56	76	14.7	3.4	4.0	3.7	4.0	3.7	80M	5.0	2.0	4.0	3.67
Presto	VIL	25	24	15.1	2.8	3.7	3.0	3.7	3.7	80VH	3.0	2.0	4.0	3.20
Tino	VIL	83	82	14.6	3.4	3.7	3.0	3.7	3.7	80L	4.0	3.0	3.7	3.49

5 = Most Desirable

See Carrot Trial write up for explanation of marks.

More information on these cultivars can be found in the Packaging and Processing Trial Reports

Eye Appeal: Average of appearance or smoothness, and uniformity of size and shape.

Listed in order of source.

CARROT CULTIVAR STORAGE TRIAL 1985/86 - PROCESSING

Cultivar	Source	% Marketable	% Weight Loss In Storage	% Decay	Degree * of Decay
Camden	Sto	82	14	4	3
Prechant	NZ	80	11	9	4
Chantal (SG 762)	SG	80	14	6	3
XPH 985	Asg	80	12	8	2
Spartan Bonus 80	Asg	79	13	8	3
Dess Dan	Sto	79	15	6	2
A & C 126	A&C	79	15	6	3
XPH 875	Asg	78	11	11	2
Processor II	Sto	75	16	9	3
Comet	NZ	75	12	13	3
Chanton	ARCO	69	13	18	2
Chantenay Red Cored	A.Ch	67	13	20	3
Danvers Gold	A.Ch.	66	15	19	4
Giant 114	PES	66	14	20	4
Danvers 126	A.Ch.	60	14	26	2
Chantenay Royal	PETO	50	14	36	3
Danvers Half Long	PETO	48	15	37	2
Average		**71**	**14**	**15**	**2.8**

*** 5 = Most Desirable, no decay**

Harvested October 18, 1985, placed in "Filacell" storage .

Replicated 3 times. Judged June 20, 1986.

Total Storage period = 35 weeks Listed in order of % marketable

LONG TERM AVERAGES - CARROT CULTIVAR STORAGE TRIAL - PROCESSING TYPES

Cultivar	Source	# Years Tested	% Marketable	% Weight Loss	% Decay	Degree* of Decay
Spartan Premium	Sto	2	90	7	3	4.00
Danvers Gold	SS	3	87	8	5	3.63
Red Cr.Chantenay 503	Asg	4	86	7	7	3.28
Spartan Deluxe	Cro	3	85	7	8	3.13
Dess Dan	ARCO	6	85	10	5	3.68
Spartan Winner	Sto	3	85	10	5	4.00
Gold King	NK	2	85	8	7	3.35
Can Pak	ARCO	3	84	9	7	3.67
Spartan Classic	Cro	4	84	7	9	3.43
Spartan Bonus	Sto	6	82	8	10	3.42
Spartan Bonus 80	Asg	4	81	10	9	3.43
Oranza	BEJO	2	77	7	16	2.85
Triple Gold	Jung	3	76	10	14	3.67
King Midas	FM	2	76	10	14	3.00
Midas Touch	FM	3	74	10	16	3.47
Casey	Asg	3	74	9	17	3.43
Danvers 126	Asg	4	72	9	19	2.68
Lucky's Gold	Jung	2	72	12	16	3.35
Chantenay Red Cored	A.Ch.	2	68	11	21	3.35
Tahoe	NK	2	67	14	19	3.00
Royal Danvers	Agw	3	66	9	25	2.70

* 5 = Most Desirable

Storage Period was usually 8 months

Listed in order of % Marketable

LONG TERM AVERAGE OF CARROT CULTIVARS - PROCESSING TYPES

Cultivar	Source	# Years Tested	LTA Marketable Yield t/ha	b/a	LTA Colour	LTA Score
Berlicum Bierma	NZ	3	64.0	28.7	4.23	3.84
Processor II	Sto	3	91.0	40.6	4.17	3.90
Dess Dan	Sto	11	76.8	34.3	4.14	3.98
Camden	Sto	3	89.5	39.9	4.13	3.88
Danvers Gold	A.Ch.	2	73.4	32.7	4.12	3.88
Triple Gold	Jung	4	58.0	25.9	4.11	3.98
Spartan Bonus 80	Asg	7	69.1	30.9	4.11	3.97
Tahoe	Agri	3	73.7	32.9	4.10	3.98
Spartan Bonus	Sto	11	75.0	33.5	4.08	3.94
A&C 126	A&C	3	71.3	31.9	4.03	3.92
XPH 875	Asg	4	76.8	34.3	4.03	3.88
Casey	Asg	5	66.4	29.6	4.00	3.93
Spartan Delux	Jung	6	69.0	30.8	4.00	3.92
Lucky's Gold	Glo	4	52.9	23.6	3.99	4.20
Spartan Winner	Jung	8	65.0	29.0	3.98	3.89
Midas Touch	FM	7	64.4	28.8	3.95	3.90

... /continued

LONG TERM AVERAGE OF CARROT CULTIVARS - PROCESSING TYPES - continued

Cultivar	Source	# Years Tested	LTA Marketable t/ha	LTA Yield b/a	LTA Colour	LTA Score
All Season Cross	Tak	4	76.0	34.2	3.95	3.84
Mark II	FM	6	77.1	34.4	3.95	3.81
XPH 985	Asg	3	79.7	35.6	3.95	3.77
King Midas	FM	6	61.4	27.4	3.94	3.83
Can-Pak	ARCO	6	66.3	29.6	3.90	3.81
Giant 114	PES	3	81.0	36.2	3.90	3.60
Spartan Classic	Cro	9	78.7	35.1	3.88	3.86
Ch. Red Cored	A.Ch.	6	71.5	31.9	3.88	3.70
Royal Danvers	Agw	4	70.0	31.2	3.86	3.84
Berlicum Berlinda	Asm	3	72.0	32.1	3.84	3.62
Spartan Premium	Cro	7	70.6	31.5	3.83	3.79
Oranza	BEJO	3	74.0	33.0	3.82	3.66
Danvers 126	Asg	10	64.4	28.7	3.78	3.65
Royal Chantenay	Sto	2	74.0	33.0	3.74	3.66
Gold King	NK	4	71.0	31.6	3.71	3.56
Chanton	ARCO	2	79.8	35.6	3.71	3.54
Red Core Chantenay	Asg	9	72.8	32.5	3.66	3.55

5 = Most Desirable

Listed in order of colour

NOTES

EARLY CELERY CULTIVAR - MAIN TRIAL - 1986

Cultivar	Source	Marketable t/ha	% Trim Loss	Early Yield		Petiole Length (cm)	Total Length (cm)	Diameter (cm)	Compactness	Boron Deficiency	Yellow Leaves	% Seeders
				Date	% 24's							
Florida 683	Asg	101	40	July 24	50	26	54	8.4	3.4	4.6	2.3	7
Bishop	HM	109	41	July 28	50	28	54	9.0	3.9	2.5	3.6	0
Ventura	Sto	102	41	July 28	50	30	60	8.8	3.5	2.8	3.1	0
Deacon	HM	92	41	July 28	50	24	52	8.5	4.0	4.0	2.8	0
Improved Utah 52-70	Sto	93	47	July 28	40	28	57	8.8	3.8	4.0	3.0	0
Green Light Tall	HM	101	48	July 28	40	27	60	8.7	3.3	4.7	2.6	7
Utah 52-70^{R} Improved	PETO	88	43	July 28	30	28	57	8.1	3.7	3.9	3.3	0
Advantage	MSU	95	37	July 31	40	30	62	8.5	3.8	4.2	4.3	0
Clean Cut	HM	102	43	July 31	40	29	59	8.6	3.9	3.5	3.1	0
Strain 2-14	A&C	99	48	July 31	40	29	60	8.7	3.9	3.9	3.1	0
Florida 683K	Sun	106	41	July 31	30	26	55	8.8	3.6	4.1	3.1	0
Summit	Sto	91	38	July 31	20	27	54	8.5	3.2	4.1	3.9	0
Green Giant	A&C	85	51	July 31	20	26	57	8.1	3.3	4.6	3.1	0
June Belle	Sun	101	41	July 31	10	24	53	8.2	3.6	4.7	2.7	0
Surepak	Sto	87	32	July 31	10	33	65	7.8	4.0	4.2	3.7	0
Pilgrim	MSU	93	43	July 31	10	33	62	8.7	3.9	3.3	4.7	0
Tall Utah 52-70 HK	Sun	94	43	July 31	10	24	53	8.5	3.9	4.3	2.4	0
Tall Utah 52-75	Sun	88	42	July 31	0	24	54	8.3	3.2	3.7	3.7	0

EARLY CELERY CULTIVAR - ADAPTATION TRIAL - 1986

Cultivar	Source	Marketable t/ha	% Trim Loss	Harvest Date	% 24's	Petiole Length (cm)	Total Length (cm)	Diameter (cm)	Compactness	Boron Deficiency	Yellow Leaves	% Seeders
C1710-2,84-329	ARCO	96	32	August 8	30	27	54	8.4	3.3	1.7	4.0	0
PSR 1983	PETO	84	35	August 8	80	28	56	7.5	4.0	4.7	4.7	0
PSR 2883	PETO	73	42	August 8	0	30	54	7.4	4.0	4.7	4.0	0
PSR 2983	PETO	71	43	August 11	0	31	58	7.1	4.3	4.3	4.7	0
PSR 3083	PETO		NO	GERMINATION								
PSR 3183	PETO	-	-	August 11	0	31	60	7.3	4.3	3.3	4.7	20
77-43	MSU	82	44	August 8	20	27	55	8.3	3.5	5.0	3.7	0
T-430	Tak	80	54	August 8	20	26	54	7.7	3.0	5.0	3.7	0

Management Practices:

Seeded March 7, 1986, transplanted to flats April 7 and planted to the field on May 6 at a spacing of 15 cm X 60 cm. No cold treatment was given prior to planting. Fertilizer was applied at 1000 kg/ha of 5-5-15 + 20 kg/ha Borox. Two times a side dressing of ammonium nitrate was applied at 100 kg/ha and 2 times Solubor was applied as a foliar spray at 1 kg/ha. A hailstorm on August 1, severely damaged the plants, reducing the quality.

Legend: 5 = Most Desirable

The Main Trial is listed in approximate order of earliness. Some of the slower growing cultivars had to be harvested due to becoming over mature. The marketable tonnes per ha is the weight of the stalks trimmed of side shoots and cut to a length of 36 cm (14"). The resulting weight loss is expressed in the % trim loss. The early yield date is the earliest date of harvest at which the cultivars achieved a good yield. The % 24's is the % of the stalks that are large enough for 24 stalks to fill a celery carton and weighing at least 24 kg.

EARLY HEAD LETTUCE CULTIVAR TRIAL - 1986

Cultivar	Source	Days to Harvest	Wt/Carton 18 Heads (kg)	% Marketable	Reason Non-Marketable	Diameter (cm)	% Tipburn	Bottom Rot	Firmness	Uniformity	Internal Stem Length (cm)	Overall Rate	Comments
Main Trial - Seeded May 9, 1986 - Replicated 3 times													
Ithaca (989)	Asg	72	19	97	br.,s	16	0	4.1	4.1	4.0	5	4.1	Upright Habit
Ithaca Enhance #628	Asg	73	19	87	br.	16	0	3.7	4.0	4.0	5	3.9	
Ithaca Enhance #627	Asg	72	19	93	br.,o	16	7	3.6	4.3	3.8	5	3.7	
Ithaca Enhance #624	Asg	73	18	83	br.,s	15	3	3.4	3.7	3.8	4	3.2	
Mesa 659	Asg	73	18	80	s,o	15	17	4.0	4.2	3.6	4	2.7	Uneven Shape
Montello	HM	72	16	93	br.	16	0	3.6	4.4	4.0	5	3.7	10% Brown Rib
Greenfield	HM	73	21	90	br.,s	16	3	3.9	3.8	3.9	6	3.4	Poor Shape
El Toro	HM	73	25	97		17	17	3.8	3.7	3.8	7	3.1	Poor Shape
Green Lake	Sto	71	17	90	o	15	0	3.8	4.2	4.4	5	4.2	
South Bay	Sto	72	15	83	br.,sl.,o	13	3	3.1	4.6	4.1	5	3.5	Small
Ithaca	Sto	73	17	90	br.	15	3	3.3	3.8	4.0	5	3.4	
Frosty	Sto	74	22	80	br.,sl.,s	17	33	3.7	3.6	3.5	5	2.2	Brown Rib
Montello	Sun	71	16	97	br.	14	0	3.4	4.3	4.6	4	4.1	Small
Green Lakes	Sun	72	16	90	s,sl	15	0	3.7	4.1	4.0	5	3.6	
Minetto	Sun	68	15	97	br.	14	7	3.6	3.9	4.0	4	3.3	Small, Cone Shape
Great Lakes 118	Sun	73	17	83	br.,s,o	15	33	3.6	4.4	4.1	5	3.1	
Adaptation Trial - Replicated 2 times													
Raleigh	Sun	71	19	90	o	16	0	3.7	4.5	4.3	5	4.1	Splits Early
South Bay	Sun	71	17	95	br.	14	30	3.4	4.7	4.0	5	2.9	Uneven Pointed
AVX 2001	Sun	73	22	90	sl.	15	50	4.3	4.0	4.0	6	2.0	Ovate Shape
AVX 2000	Sun	74	26	40	sl.	16	60	3.9	3.3	3.7	8	1.0	Ovate Shape

5 = Most Desirable

Legend: br. - bottom rot
sl - slime
Spacing - 43 X 30 cm
Tipburn detected by splitting heads

s - soft, immature
o - over mature, split

wt/carton - 18 kg = 4016

LATE HEAD LETTUCE VARIETY TRIAL - 1986

Cultivar	Source	Days to Harvest	Wt/Carton 18 Heads (kg)	% Marketable	Reason Non-Marketable	Diameter (cm)	% Tipburn	Bottom Rot	Firmness	Uniformity	Internal Stem Length (cm)	Eye Appeal	Overall Rate	Comments
Main Trial - Seeded July 3, 1986 - Replicated 3 Times														
Ithaca (989)(EN#628)	Asg	70	22	87	S	18	0	4.0	4.0	4.0	4	4.1	4.1	
Ithaca (989)(EN#624)	Asg	71	23	90	S,BR	17	0	3.4	4.0	4.1	5	4.1	4.1	
XP 993	Asg	70	17	87	S	16	0	3.6	4.2	4.0	3	4.2	4.0	Nice, But Small
Ithaca (989)	Asg	71	21	83	S	17	0	3.5	3.9	4.2	4	4.1	4.0	
Fairton	Asg	69	20	77	S	17	0	3.8	4.2	3.9	3	4.2	4.0	
Ithaca (989)(EN#627)	Asg	70	19	80	S	16	0	3.6	3.8	3.9	4	4.1	3.9	
Mesa 659	Asg	71	26	93	S	18	0	4.1	4.1	3.8	4	4.0	3.8	Many wrapper leave
Montello	HM	69	16	83	S,BR	16	0	3.6	4.2	4.1	4	4.0	4.1	
Greenfield	HM	71	26	83	S,	19	0	4.0	3.6	4.0	8	3.6	3.2	
El Toro	HM	70	26	87	S	19	0	4.1	3.0	3.8	8	3.2	3.1	Large
Ithaca	Sto	69	21	93	S,BR	17	0	3.4	4.1	3.9	5	3.9	4.1	
South Bay	Sto	68	16	83	S,BR	15	0	3.3	4.2	4.1	4	4.3	4.0	Small
Green Lake	Sto	68	16	93	S	16	0	3.5	4.0	3.9	4	4.2	3.9	
Frosty	Sto	71	28	87	S,BR	19	0	3.5	3.6	3.9	5	3.7	3.6	Puffy
Great Lakes 118	Sun	71	25	73	S	17	0	4.0	4.1	3.9	4	4.3	4.1	Ribby
Montello	Sun	69	17	90	S,BR	17	0	3.5	4.1	4.0	5	4.3	4.0	
Green Lakes	Sun	70	17	90	S,D	17	0	3.8	3.9	4.0	4	4.1	3.9	
Minetto	Sun	68	16	93	BR	15	0	3.3	4.2	4.1	4	4.2	4.0	Small
Adaptation - Replicated 2 Times														
Raleigh	Sun	69	18	95	S	17	0	4.2	4.5	4.3	4	4.3	4.0	Small
South Bay	Sun	69	14	75	S,BR	15	0	3.9	4.2	4.0	4	4.2	4.0	Small
AVX 2000	Sun	71	26	60	S,BR,SE	18	25	4.0	2.9	3.2	9	2.7	2.5	
AVX 2001	Sun	72	28	85	S	19	45	3.8	3.3	3.5	13	3.0	2.2	

5 = Most Desirable

Legend: **S = Soft** **BR= Bottom Rot**
D = Drop **SE = Seeders**

EARLY ROMAINE LETTUCE CULTIVAR TRIAL - 1986

Cultivar	Source	Days to Harvest	Wt/Carton 18 Heads (kg)	% Marketable	Reason Non-Marketable	Diameter (cm)	% Tipburn	Bottom Rot	Firmness	Uniformity	Internal Stem Length (cm)	Overall Rate	Comments
Main Trial - Seeded May 9, 1986 - Replicated 3 times													
Parris Island Cos	Asg	71	19	97	A	16	0	4.7	3.7	4.0	8	3.9	
Signal	Asg	67	14	100	-	15	37	4.8	3.3	3.7	7	3.0	Small
Green Towers	HM	66	18	100	-	17	0	4.8	4.0	4.0	7	4.2	Large, Nice, Open Type
Parris Island Cos	HM	68	18	100	-	16	3	4.7	3.8	3.7	8	3.8	
Parris Island Cos	Sto	70	19	97	I	16	43	4.6	4.1	3.9	8	3.2	Over mature
Adaptation Trial - Replicated 2 Times													
160 129	PETO	69	16	100	-	16	10	4.7	3.8	3.5	9	3.6	
160 138	PETO	68	14	100	-	16	30	4.5	3.7	4.2	8	3.1	Short
160 113	PETO	63	11	100	-	13	100	4.7	3.7	4.4	6	2.0	
Flori Cos 83	Sun	69	17	100	-	17	5	3.9	3.8	4.2	8	3.5	Short, Open Type

Legend: 5 = Most Desirable

A = Aster Yellows

I = Internal Rot

LATE ROMAINE LETTUCE TRIAL - 1986

Cultivar	Source	Days to Harvest	Wt/Carton 18 Heads (kg)	% Marketable	Reason Non-Marketable	Diameter (cm)	% Tipburn	Bottom Rot	Firmness	Uniformity	Internal Stem Length (cm)	Eye Appeal	Overall Rate	Comments
Main Trial - Seeded July 3, 1986 - Replicated 3 times														
Parris Island Cos	Asg	64	18	100	-	16	0	4.8	4.3	4.2	8	4.3	4.4	Very Nice
Signal	Asg	64	17	100	-	15	2	4.4	3.9	3.8	8	3.9	4.0	Short, Pale Green
Green Towers	HM	64	20	100	-	16	0	4.6	4.6	4.5	8	4.7	4.6	Very Nice, Open Type
Parris Island Cos	HM	64	17	100	-	15	0	4.3	4.1	4.1	8	4.1	4.1	Nice
Parris Island Cos	Sto	64	18	100	-	16	0	4.3	4.1	3.9	11	3.9	3.9	Close to Bolting
Adaptation - Replicated 2 Times														
160 138	PETO	64	16	100	-	15	0	4.2	4.0	3.9	8	4.3	4.0	A Few Soft
160 113	PETO	64	17	100	-	14	20	4.4	4.0	4.3	7	4.3	4.0	
160 129	PETO	64	14	100	-	14	0	4.5	3.5	3.2	8	3.9	3.9	
Flori Cos 83	Sun	66	17	100	-	16	0	3.8	4.3	4.2	8	4.3	4.2	Open Type

5 = Most Desirable

ONION CULTIVAR TRIALS - 1986.

Crop Management Information of Trials on Muck Soils.

Fertilizer: 1000 kg/ha 10-5-20 + 20 kg/ha copper sulfate.

Seeding: On April 30 and May 5, athe cultivars were seeded at 46 to 52 seeds/m depending on germination, in rows spaced 53 cm apart. A V belt seeder, equipped with a 5 cm wide scatter shoe was used. The seed was coated with Pro-Gro, and Lorsban 15G was applied at 14 kg/ha in the seed furrow.

Weed Control: Pre: 3 L/ha Gramoxone
Loop: 13.8 L/ha Randox + 5.5 L/ha C.I.P.C.
Post: 5.6 L/ha Randox at the 1 and 8 leaf stage
156 ml/ha Goal at the 2,4, and 6 leaf stage
1.2 L/ha Poast + 3 L Assist at 8 leaf stage.

Minor Elements: 5 sprays of 2 or 3 kg/ha manganese sulfate.

Crop Development: The water table was controlled at 60 cm.

A hail storm on Aug. 1 severely damaged the crop resulting in a loss of yield and quality.

Explanation of Marks given.

The three times replicated Main Trial is listed in order of the long term average days to maturity. Due to the hail damage, the 1986 date of maturity could not be established. No data of the days to maturity is supplied for the Adaptation Trial.

Stand/meter: 33 bulbs/m = 10 bulbs/ft.
Yield/ha: The marketable yield over 44 mm (1 3/4"). 56 t/ha = 25 t/a = 1000 bags/acre.
Weight/bulb = a bulb 2 1/4" in diameter weighs 100 g and a bulb 2" in diameter weighs 70 grams. Due to the hail damage, this years' bulbs were small in size
Firmness A: Evaluated on Sept. 17, after the bulbs were windrowed and just prior to harvesting and storing.
Firmness B: Evaluated on Dec. 3., after the artificial curing and drying phase, which began on Sept. 18
Score: The average of the 7 preceding marks, excluding Firmness A.
Seeders: Very few seeders developed with the exception of cvs Paragon (5%), Topaz (2%), Bullseye (2%) and Capable (2%).

5 = Most Desirable

Observation Trial: 116 numbered onion breeding lines were grown at the station for the evaluation of the breeders. No evaluation was done by the staff of the station.

ONION CULTIVAR MAIN TRIAL - 1986

Cultivar	Source	LTA Days to Maturity	Stand/Meter	Marketable Yield t/ha	Marketable Yield b/a	% No. 1 Smalls	% Culls	Weight/Bulb (g)	Firmness A	Firmness B	Uniformity Size	Uniformity Shape	Colour	Skin Thickness	Skinning	Neck Finish	Score
Eskimo	Sto	106	36	65	1157	5	6	84	3.9	3.5	4.1	4.0	3.8	3.6	3.6	4.1	3.81
Norstar	Tak	107	35	69	1235	3	6	92	3.8	3.0	3.6	3.9	3.4	3.3	3.2	4.0	3.49
Columbia	FM	109	36	57	1010	10	4	72	4.0	3.8	3.8	4.0	4.0	3.8	3.7	3.7	3.83
Tarmagon	Sto	109	34	64	1132	3	4	84	4.1	3.6	3.9	3.8	3.6	3.6	3.3	4.0	3.69
Early Pak	Sieg	110	32	50	882	8	7	72	3.7	3.7	3.8	3.8	3.8	3.8	3.5	3.6	3.71
Capable	ARCO	110	33	57	1017	8	5	80	4.0	3.7	3.8	3.6	3.7	3.8	3.7	3.4	3.67
Taurus	Asg	111	42	57	1020	13	6	62	3.9	3.4	3.9	4.0	3.6	3.7	3.7	3.8	3.73
Aries	Asg	111	34	55	979	10	3	72	3.8	3.5	3.8	3.7	3.8	3.7	3.7	3.6	3.69
Buccaneer Imp.	HM	114	38	50	895	13	9	63	3.8	4.0	3.9	4.0	4.0	3.7	3.7	3.7	3.86
ABCO	A&C	114	32	52	920	5	8	79	4.0	3.7	3.8	3.8	3.9	3.9	3.8	3.4	3.76
HXP 2612	HM	114	32	49	877	8	8	72	3.8	3.8	3.7	3.8	4.0	3.7	3.4	3.8	3.74
Autumn Glo	Cro	114	34	52	926	6	9	73	3.9	3.7	3.7	3.9	3.7	3.6	3.4	3.7	3.67
Flame (XPH 3272)	Asg	114	40	53	936	15	8	61	3.6	3.3	3.7	3.7	3.8	3.7	3.9	3.4	3.64
Bronze Reserve	FM	115	38	49	865	15	7	59	3.6	3.6	3.9	3.8	3.9	3.9	3.9	3.8	3.83
Sweet Sandwich	A.Ch.	115	33	57	1009	7	3	77	3.5	3.7	3.7	3.9	3.9	3.9	3.9	3.6	3.80
Autumn Splendor	JHK	115	36	57	1016	9	5	73	4.1	3.7	3.8	3.7	3.7	3.6	3.7	3.6	3.69
HXP 2621	HM	117	30	46	825	7	10	74	4.1	4.0	4.0	4.1	3.9	4.0	3.9	3.6	3.93
Autumn Keeper	JHK	117	34	52	917	7	7	71	4.1	3.8	3.9	3.9	4.0	3.7	3.7	3.7	3.81
Canada Maple	Sto	117	35	56	991	10	3	72	4.2	3.9	3.7	3.7	3.8	3.9	3.9	3.6	3.79
Autumn Pride	JHK	119	37	56	1000	10	8	71	3.8	3.4	3.7	3.7	3.4	3.5	3.5	3.2	3.49
Sentinel	HM	120	34	47	834	7	15	70	4.2	3.9	3.9	3.9	4.0	3.8	4.0	3.4	3.84
Bullet	FM	120	36	61	1092	5	5	78	4.0	3.8	3.8	3.9	3.9	3.7	3.8	3.7	3.80
Cuprum	ARCO	121	45	60	1067	17	3	59	4.1	3.6	3.6	3.8	3.9	3.8	4.0	3.7	3.77
Copra	Sieg	125	38	66	1179	5	4	79	4.1	3.9	3.8	4.1	4.1	3.9	3.6	3.8	3.89
Spartan Banner	JHK	125	36	59	1055	7	4	75	4.0	3.6	4.0	3.9	3.8	3.7	3.9	3.3	3.74

ONION CULTIVAR ADAPTATION TRIAL - 1986.

Cultivars	Source	Stand/Meter	Marketable Yield t/ha	Marketable Yield b/a	% No. 1 Smalls	% Culls	Weight/Bulb (g)	Firmness A	Firmness B	Uniformity Size	Uniformity Shape	Colour	Skin Thickness	Skinning	Neck Finish	Score
Better Banner	A&C	33	49	865	13	3	65	4.0	4.0	3.7	4.0	4.0	3.7	4.0	3.7	3.87
Big Red *	A&C	36	56	996	6	13	78	3.3	3.7	3.7	3.7	3.3	3.7	3.3	3.3	3.53
Keepsweet II	A&C	34	57	1010	13	6	78	3.3	4.0	3.3	3.7	4.0	3.7	4.0	4.0	3.81
Sensational	A&C	32	43	764	12	8	62	4.0	3.7	4.0	3.7	4.0	3.7	4.0	3.7	3.83
Superior	A&C	35	60	1060	9	2	74	3.7	3.7	4.0	3.7	3.7	3.7	3.7	3.7	3.74
Super Apollo	A&C	29	38	669	5	15	65	3.7	3.3	3.7	3.3	3.3	3.3	3.3	3.7	3.41
Bronco	AS	28	38	681	12	7	64	3.7	4.0	3.7	3.7	3.7	4.0	4.0	3.7	3.83
Bronze Age	AS	33	50	892	14	7	71	4.0	4.0	4.0	3.7	4.0	3.7	3.7	4.0	3.87
Golden Bear	AS	31	66	1180	3	5	99	3.7	3.7	3.7	3.7	3.7	3.7	3.7	4.0	3.74
Marathon	AS	Too Late Maturing														
Marcel	AS	Too Late Maturing														
Markant	AS	Too Late Maturing														
Marlowa	AS	Too Late Maturing														
Mustang	AS	27	43	764	4	13	80	4.0	4.0	3.7	3.7	3.7	3.7	4.0	3.7	3.79
Paragon	ARCO	35	64	1132	8	0	78	4.3	4.3	4.0	4.0	4.3	4.0	4.0	4.0	4.09
Simcoe	ARCO	38	55	983	11	2	65	3.3	3.7	4.0	3.7	4.0	4.0	3.7	3.7	3.83
Tango	ARCO	32	44	791	10	16	72	3.0	3.3	4.0	3.7	3.3	3.3	3.3	3.7	3.51
Sierra	Asg	36	49	871	4	27	80	3.7	3.7	4.0	4.0	4.0	3.7	4.0	3.7	3.87

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ONION CULTIVAR ADAPTATION TRIAL - 1986 - continued

Cultivar	Source	Stand/Meter	Marketable Yield t/ha	Marketable Yield b/a	% No. 1 Smalls	% Culls	Weight/bulb (g)	Firmness A	Firmness B	Uniformity Size	Uniformity Shape	Colour	Skin Thickness	Skinning	Neck Finish	Score
Garnet	Asg	31	41	720	4	26	77	4.0	3.7	4.0	4.0	3.7	4.0	4.0	3.7	3.87
Topaz	Asg	34	53	948	7	10	76	4.3	3.3	3.7	3.7	3.7	3.3	3.0	4.0	3.53
Pronto S	Asg	33	60	1072	7	7	86	3.7	3.3	3.7	3.7	3.7	3.7	3.3	4.0	3.63
Ontario M	Asg	30	44	787	7	2	74	4.0	4.0	3.7	4.0	3.7	3.7	4.0	3.7	3.83
Bullseye	FM	24	53	944	3	2	97	3.7	3.7	3.7	3.7	3.7	3.7	4.0	3.3	3.69
Class Pak	FM	26	54	956	4	5	95	3.7	4.0	3.3	3.7	3.7	3.7	3.7	3.7	3.69
Sassy Brassy	FM	33	46	811	14	8	65	3.7	3.7	3.7	3.7	3.7	4.0	4.0	3.3	3.73
Sleeping Beauty	FM	24	48	853	1	16	102	3.7	3.7	4.0	4.0	4.0	4.0	4.0	3.7	3.91
Sweetheart	FM	26	50	884	8	3	84	3.7	3.7	3.7	3.7	4.0	4.0	4.3	3.7	3.87
Rip Van Winkle	FM	24	54	954	3	2	100	3.7	3.7	3.7	3.7	3.7	4.0	4.0	3.3	3.73
Golden Treasure	JHK	35	74	1314	4	2	94	3.7	3.7	3.7	3.7	3.7	3.7	4.0	3.3	3.69
Spartan Banner 80	JHK	30	52	921	6	13	86	3.7	3.7	3.7	3.7	4.0	4.0	4.0	3.3	3.77
Enterprise	JHK	30	38	679	10	17	66	3.7	3.7	4.0	3.7	3.7	3.7	3.7	3.7	3.74
Imelda	NZ	36	50	886	12	13	69	3.7	3.3	3.7	3.7	3.7	3.7	3.3	4.0	3.63
Omega	NZ	21	29	524	5	11	70	4.3	3.7	3.7	3.7	3.7	3.7	3.3	3.7	3.64
Royal Pokey	NZ	29	37	662	11	11	63	4.3	3.3	3.7	3.7	3.7	3.7	3.3	4.0	3.63
Canada Bronze	Sto	25	38	673	4	7	71	4.0	4.0	4.0	3.7	4.0	4.0	4.0	3.3	3.86
Cuprum	Sto	28	42	756	11	13	76	4.0	3.7	4.0	4.0	4.0	4.0	4.0	3.3	3.86
Bingo	Sto	28	49	880	8	10	86	3.7	4.0	3.7	4.0	4.3	4.0	4.0	3.7	3.96
Stokes Exporter II	Sto	26	48	857	5	3	84	3.7	3.3	4.0	3.7	3.7	4.0	3.7	3.7	3.73

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ONION CULTIVAR ADAPTATION TRIAL - 1986 - continued

Cultivar	Source	Stand/Meter	Marketable Yield t/ha	Marketable Yield b/a	% No. 1 Smalls	% Culls	Weight/Bulb (g)	Firmness A	Firmness B	Uniformity Size	Uniformity Shape	Colour	Skin Thickness	Skinning	Neck Finish	Score
Super Spice II	Sto	31	56	1002	7	4	83	3.7	4.0	3.7	3.7	3.7	3.7	4.0	3.7	3.79
Tamarack	Sto	22	37	662	4	14	85	4.3	4.0	4.3	4.0	4.0	3.7	3.7	3.7	3.91
Tamarack II	Sto	26	44	778	3	13	83	3.7	3.7	3.7	4.0	3.7	3.7	3.7	3.7	3.74
Carmen *	Sto	35	28	497	26	24	46	3.7	3.7	4.0	4.0	3.7	3.7	3.3	3.7	3.73
EXP 5799 *	Sto	23	30	530	8	21	72	3.7	3.0	3.7	4.0	3.7	3.7	3.7	3.3	3.59
Red Baron *	Cro	32	48	849	8	13	74	3.3	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.53
Benny's Red *	HM	36	51	902	5	24	81	3.3	3.3	3.3	3.7	3.3	3.7	3.7	3.3	3.47
Progress	HM	31	48	859	9	8	74	4.0	3.3	3.7	3.3	3.7	3.3	3.3	4.0	3.51
Nutmeg	HM	31	51	902	10	1	71	4.0	4.0	4.0	3.7	4.0	3.7	4.0	4.0	3.91
HXP 2610	HM	32	55	983	5	10	84	3.7	3.7	3.7	3.7	3.7	3.7	3.7	4.0	3.74
Rocket	Asg	39	58	1033	10	4	68	4.0	3.7	3.7	3.7	4.0	3.7	3.3	3.7	3.69
ARCO 702-3	ARCO	34	47	834	6	23	78	-	2.7	3.7	3.7	3.0	3.0	2.7	4.3	3.30

5 = Most Desirable

* Red cultivars

Due to a severe hail damage, days to maturity data could not be established.

Very few cultivars developed seeders except, Paragon (5%); Topaz (2%); and Bullseye (2%).

LONG TERM AVERAGES OF SOME OF THE ONION CULTIVARS TESTED IN OUR TRIALS

Cultivar	Source	# Years Tested	LTA t/ha	LTA b/a	LTA Days to Maturity	Firmness
Eskimo	Tak	4	58.3	1037	106	3.75
Super Spice	Sto	5	37.5	668	107	4.14
Norstar	Tak	4	65.0	1158	107	3.44
Pronto S	Asg	4	48.4	862	107	3.00
Autumn Spice	Cro	9	41.2	773	108	4.17
Simcoe	ARCO	8	48.6	865	109	4.24
Columbia	FM	3	56.3	1003	109	3.95
Rocket	Asg	13	54.6	970	109	3.82
Early Pak	Cro	8	52.5	935	110	4.08
Fawn Preview	FM	11	51.2	912	110	4.05
Trapp # 6	Tra	12	54.1	962	110	4.01
Tarmagon	Sto	3	65.2	1160	110	3.88
Capable	ARCO	3	55.8	993	110	3.83
Garnet	Asg	12	54.1	962	110	3.77
Progress	HM	8	57.5	1024	110	3.70
Mirage	Sto	4	44.2	787	111	4.35
Tamarack	Sto	6	48.8	868	111	4.22
Buccaneer	HM	13	52.0	926	111	4.08
Mustang	HM	12	51.1	910	111	4.05
Aries	Asg	10	52.3	931	111	3.93

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LONG TERM AVERAGES OF SOME OF THE ONION CULTIVARS TESTED IN OUR TRIALS- continued

Cultivar	Source	# Years Tested	LTA t/ha	LTA b/a	LTA Days to Maturity	Firmness
Taurus	Asg	10	53.6	954	111	3.83
Nutmeg	HM	10	51.6	919	112	4.29
Trapp #8	Tra	11	56.8	1011	112	4.23
Golden Laker	FM	5	47.4	848	112	4.00
Imp. Autumn Spice	Sto	8	45.8	815	112	3.78
Sunburst	Asg	8	44.5	792	113	4.00
Mucker	ARCO	8	55.6	990	114	4.05
ABCO	A&C	4	61.2	1090	114	4.02
Buccaneer Imp.	HM	4	57.6	1025	114	4.28
Autumn Glo	Cro	6	53.7	955	114	3.97
Copper Cache	FM	9	53.7	956	114	3.92
HXP 2612	HM	3	56.8	1010	114	3.90
Sunglow	Cro	4	51.3	909	114	3.86
Autumn Bronze	FM	2	40.0	713	115	4.00
Autumn Splendor	JHK	5	54.3	966	115	3.99
Sweet Sandwich	PETO	5	66.8	1190	115	3.92
Ontario M	Asg	7	54.7	970	116	4.11
Bronze Reserve	FM	3	52.0	926	116	3.80
Coppermine	FM	2	61.9	1100	116	3.78
Canada Maple	Sto	16	56.0	997	117	4.21

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LONG TERM AVERAGES OF SOME OF THE ONION CULTIVARS TESTED IN OUR TRIALS- continued

Cultivar	Source	# Years Tested	LTA t/ha	LTA b/a	LTA Days to Maturity	Firmness
Spartan Era	Sun	7	55.5	987	117	4.13
Autumn Keeper	JHK	8	53.7	955	117	4.09
Storage King	Sto	8	53.9	960	117	3.90
HXP 2621	HM	2	46.7	831	117	3.90
Gladiator	Sun	10	61.5	1094	117	3.76
Exporter	Sto	14	57.9	1030	117	3.76
Bronze Age	FM	6	60.8	1082	117	3.38
Spartan Sleeper	USDA	4	61.4	1093	118	4.11
Russet	Sto	6	66.1	1177	118	3.83
Autumn Pride	Cro	5	69.0	1228	119	3.66
Sentinel	HM	12	58.4	1039	120	4.22
Bullet	FM	3	68.0	1210	120	3.92
Harvestmore	HM	2	39.4	701	120	3.50
Canada Granite	Sto	5	45.1	803	121	4.04
Cuprum	ARCO	3	63.2	1125	121	3.96
Northern Oak	Sto	8	61.0	1085	121	3.80
Gibralter	FM	2	59.7	1063	122	4.25
Surecrop	HM	4	60.7	1081	124	4.23
Better Banner	A&C	2	59.2	1052	125	3.84
Spartan Banner 80	Agw	2	67.8	1207	125	3.78
Super Sleeper	HM	3	59.6	1060	126	4.20
Spartan Banner	A&C	6	62.1	1106	126	3.77

Listed in order of Days to Maturity

LONG TERM AVERAGES ONION CULTIVAR STORAGE TRIALS

Cultivar	Source	# Years Tested	% Weight Loss in Storage	% Rot, Soft & Sprouts by Weight	% Marketable by Weight	* Firmness
Simcoe	ARCO	4	7.8	7.2	85.0	4.18
ABCO	A&C	3	8.0	7.7	84.3	3.67
Cuprum	ARCO	3	8.6	8.7	83.7	3.80
Canada Maple	Sto	8	8.2	8.5	83.3	4.22
Buccaneer Imp.	HM	5	9.0	8.0	83.0	4.22
Exporter	Sto	3	8.7	9.2	82.1	3.63
Taurus	Asg	7	6.9	11.5	81.6	3.70
Sentinel	HM	8	9.9	9.8	80.3	4.17
Sweet Sandwich	Asg	3	10.0	9.7	80.3	3.40
Mucker	ARCO	6	8.3	11.5	80.2	3.82
Trapp #8	Tra	7	8.5	11.4	80.1	4.00
Copper Cache	FM	5	8.9	11.8	79.3	3.98
Fawn Preview	FM	6	8.3	12.6	79.1	4.17
Storage King	Sto	4	8.8	12.7	78.5	3.93
Autum Pride	E.J.	3	8.0	14.7	77.3	3.33
Trapp #6	Tra	5	8.6	14.3	77.1	4.02
Autumn Keeper	Cro	5	9.6	15.4	75.0	3.92
Rocket	Asg	5	8.0	17.5	74.5	3.96
Tamarack	Sto	4	9.0	16.7	74.3	3.83
Mustang	HM	4	8.8	17.4	73.8	3.95
Aries	Asg	6	8.2	20.5	71.3	3.52
Garnet	Asg	5	8.0	21.4	70.6	3.34
Ontario M	Asg	5	7.8	21.9	70.3	3.70
Autumn Splendor	Cro	6	8.8	22.0	69.2	3.92
Eskimo	Tak	3	9.0	24.7	66.3	3.50
Early Pak	Cro	5	9.6	24.2	66.2	3.72
Autumn Glo	Cro	4	10.9	24.8	64.3	3.80
Progress	HM	7	8.5	30.7	60.8	2.89
Russet	Sto	5	9.4	30.0	60.6	3.00
Norstar	Tak	3	9.0	39.0	52.0	2.83

* 5 = Most Desirable

Listed in order of % marketable

Storage Period Usually 11 Months

ONION CULTIVAR STORAGE TRIAL - SEPT. 1985 - AUGUST 18, 1986

Cultivar	Source	% Weight Loss	% Rot	% Sprouts	% Soft	% Mkb.	* Firmness
Bullet	FM	9	1	3	2	85	3.7
Copra	BEJO	9	1	5	1	84	4.3
Buccaneer Imp.	HM	10	2	3	1	84	4.3
Canada Maple	Sto	10	4	1	3	82	4.1
Autumn Keeper	JHK	11	2	2	4	81	4.0
Cuprum	ARCO	8	1	6	4	81	3.9
ABCO	A&C	8	3	3	5	81	3.6
Simcoe	ARCO	10	2	4	4	80	4.2
Trapp #8	E.J.	10	2	4	4	80	4.0
Mucker	ARCO	10	3	4	3	80	3.6
Sweet Sandwich	Asg	10	2	3	6	79	3.3
Sentinel	HM	11	2	6	3	78	4.0
Taurus	Asg	8	2	2	10	78	3.6
Tarmagon	Sto	9	1	9	5	76	4.0
Gibraltar	FM	10	6	6	2	76	3.8
Autumn Glo	Cro	10	1	4	10	75	3.6
North Star	FM	10	2	11	4	73	3.8
Eskimo	Sto	9	2	15	4	70	3.9
Autumn Splendor	JHK	9	2	19	8	62	3.7
Aries	Asg	9	1	16	12	62	3.4
Autumn Pride	Cro	11	4	4	19	62	3.0
Superior	A&C	12	4	12	14	58	3.2
Progress	HM	10	2	18	20	50	3.0
Sunglow "A"	Cro	11	1	16	22	50	2.9
Norstar	Sto	9	2	20	31	38	2.7
Average		**10**	**2**	**8**	**8**	**72**	**3.7**

*** 5 = Most Desirable**

Listed in order of % marketable.

On August 23, 1985, MH 60SG was applied at 3.75 kg/ha in 1200 L water/ha. The bulbs were pulled on Sept. 9 and the tops were removed Sept. 19. The samples were placed in a forced air and temperature controlled storage at 27°C and a relative humidity of 50% which increased in 2 weeks to 75%. The temperature was gradually lowered until it reached 1°C by the end of December. On August 14, 1986 data was taken. Total storage period 47 weeks.

ONION CULTIVAR TRIAL ON MINERAL SOIL - 1986

This 2 times replicated trial was seeded on May 5, in a Granby sandy soil, on raised beds 140 cm wide at the top, with 4 rows per bed, spaced 30 cm apart.

Normal growing practices were followed.

Harvest took place on Sept. 8, after which the bulbs were treated and stored in the same manner as the onion trials on organic soil. Data was taken on December 11.

Legend

5 = Most Desirable.

Listed in order of yield. Many bulbs were slightly spindle shaped due to the excessive wet weather in August and September.

The stand per meter of many cultivars was high and these should have been thinned to 30-33 plants/m (9-10/ft).

Weight/bulb: A bulb 44 cm (1 3/4") in diameter weighed 44 g.
A bulb 50 mm (2") in diameter weighed 70 g.

The culls were mostly undersized (< 1 1/4").

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ONION CULTIVAR TRIAL ON MINERAL SOIL - 1986 - continued

Cultivar	Source	% Down - Aug. 28	Stand/Meter	Yield t/ha	Yield b/a	% No. 1 Smalls	% Culls	Weight/bulb (g)	Firmness	Uniformity Size	Uniformity Shape	Colour	Skin Thickness	Skinning	Neck Finish	Score
Super Spice II	Sto	83	35	46	815	23	2	58	3.5	3.7	4.0	3.9	3.9	3.8	4.4	3.89
Progress	HM	98	32	45	799	24	2	61	3.3	3.7	3.7	4.0	4.0	3.7	4.0	3.77
Norstar	Tak	93	37	43	759	36	3	51	3.7	3.4	4.0	3.7	4.0	3.9	4.2	3.84
Capable	ARCO	78	36	42	750	40	4	52	3.7	3.7	4.0	3.9	4.0	3.9	4.0	3.89
Early Pak	Cro	58	37	40	705	51	2	48	3.7	3.7	3.9	4.0	4.0	3.9	4.2	3.91
Topaz	Asg	70	35	36	641	39	7	48	3.7	3.7	4.0	4.0	3.7	3.9	4.0	3.86
Eskimo	Sto	90	35	36	638	55	4	46	3.7	3.7	4.0	3.9	3.9	3.9	4.2	3.90
Columbia	FM	85	29	32	567	35	5	50	3.9	3.9	3.9	4.0	4.0	4.2	4.0	3.99
ABCO	A&C	58	26	32	566	35	5	56	3.9	3.9	4.0	4.0	4.0	4.0	4.0	3.97
Taurus	Asg	73	31	32	564	45	6	47	3.7	3.7	4.0	4.0	4.0	4.0	4.0	3.91
Garnet	Asg	73	34	32	564	47	5	42	3.7	3.5	4.0	4.0	4.0	4.2	4.0	3.91
Aries	Asg	86	37	31	548	49	9	39	3.7	3.7	4.0	3.9	3.9	4.0	4.0	3.89
Sweet Sandwich	Cro	40	32	31	544	54	6	44	3.9	3.7	4.2	4.0	4.0	4.2	3.7	3.96
Buccaneer Imp.	HM	53	37	29	507	64	10	37	4.0	3.5	4.0	3.9	4.0	4.0	4.0	3.91
Canada Maple	Sto	30	37	27	482	62	11	36	3.7	3.7	4.0	3.9	4.0	4.0	4.0	3.90

ONTARIO REGIONAL POTATO CULTIVAR TRIAL - 1986

Fertilizer was applied according to soil sample recommendations at 500 kg/ha 10-10-30 + 20 kg/ha Borax.

Eleven cultivars, replicated three times, were planted on May 26 with the seed pieces spaced at 4/m. The larger tubers were cut in half. The rows were spaced 86 cm apart. The depth of planting was 7 cm with low hilling afterwards.

One herbicide treatment of 2 kg/ha Lorox was applied on June 9, after a second hilling.
On Aug. 1, a hail storm severely damaged the tops.
Harvesting took place Oct. 16 and judging was done November 13.

Legend:

Marketable Size: 57 to 89 mm (2 1/4 to 3 1/2 inches)

Yield: 31 t/ha = 500 bushels/acre. 1 bushel = 25 kg (55 lbs.)

Chip Score: Poor = 50, Excellent = 85+

Specific Gravity: Poor = 70, Excellent = 80+

ISS: Irregular shape and Size

NOTE: This trial was done in co-operation with Dr. R.H. Coffin (Research Scientist) and Mary Kay Keenan (Plant Breeding Technician) of Agriculture Canada.

Cultivar	Mkb. t/ha	% Mkb.	% Over.	% Smalls	% Culls	Chip Score	S.P. Gravity	Comments
Atlantic	54.2	82	7	11	0	60	63	Heavy flakes, some cracks
F 73008*	52.8	78	1	11	10			ISS, cracks, burst ends
Donna	41.9	69	3	14	14			ISS
Norchip	35.6	75	4	12	9	55	53	Good washer (early season only)
MS002-171Y	35.3	74	12	13	1	60	60	Smooth, Clean uniform
Yukon Gold	32.3	76	14	8	2			Yellow flesh, pink eyes, good cooking
Trent	28.1	79	6	14	1	60	64	Round, Flattened, Smooth
Shepody	26.4	74	2	15	9			Long, smooth, shallow eyes
Russet Burbank	25.1	78	0	20	2			Long, smooth, ISS, not typical
Bintje	24.5	62	0	33	5			Yellow Skin
ND860-2	23.0	71	0	29	0	60	57	Clean

* Accepted for temporary license